Poznań Studies in Contemporary Linguistics 40, 2005, pp. 135-156

INTERACTING WITH BINOMIALS: EVIDENCE FROM JORDANIAN EFL LEARNERS

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ABSTRACT

This paper reports on the findings of a large-scale study exploring how two different proficiency level groups of Jordanian EFL learners at university interact with a set of binomials, e.g. *men and women*, *bread and butter* and *safe and sound*. The data are elicited through a written task that consists of 30 items, each presenting one binomial. The items are selected from a preliminary list of 90 items compiled by the researcher from the ELT materials which the subjects use in their coursework. Analysis of the data suggests that the order of acquisition of binomials may be determined by some combination of transparency, frequency and cultural specificity. The study concludes with some implications and recommendations in the fields of language learning and teaching in addition to translation and contrastive analysis.

1. Introduction

The domain of this paper is lexical development in learners of English as a second/foreign language (ESL/EFL). In particular, it reports on the findings of a large-scale study exploring how two different proficiency level groups of Jordanian EFL learners at university level interact with a set of binomials, e.g. *men and women*, *bread and butter*, etc.

Without lexical knowledge, "nothing can be conveyed" (Wilkins 1972: 11). This may explain the growing research interest over the past few decades in vocabulary acquisition placing special emphasis on EFL/ESL learners' lexical choice problems and the type of strategies they use, consciously or subconsciously, while interacting with the target language words and word combinations (Wallace 1982; Hamdan 1984; Sonaiya 1991; Zughoul 1991; Fakhoury 1995; Farghal and Obiedat 1995; Hamdan 1997; Al-Khanji and Hussein 1999; Diab and Hamdan 1999; Abdul-Fattah 2001, to mention only a few). Summing up the significant shift in this research area, Meara (2002: 393) concluded: "Vocabulary acquisition has moved from being neglected backwater in second language acquisition (SLA) to a position of some im-

portance, and this importance looks like increasing as lexical issues become more central to theoretical linguistics".

The interest in investigating how Arabic-speaking EFL learners interact with vocabulary in the target language started in the 1980s. Hamdan (1984), using a highly controlled translation task, reported that adult Jordanian EFL learners encountered serious problems in basic English vocabulary. Further, he provided an authentic list of problematic English words for such learners. Zughoul (1991) used the written compositions of a sample of EFL learners at Yarmouk University in Jordan to identify and describe their errors in lexical choice. The study provided a tentative list of thirteen error types, e.g. assumed synonymity, literal translation, and analogy. Hamdan (1997) reported that Jordanian EFL teachers had serious problems identifying and correcting a sample of lexical errors in written discourse. The study also explored the potential impact of systematic training in contrastive analysis and error analysis on improving the subjects' ability to identify and correct vocabulary errors. Hamdan concluded that such training had proved to be significantly useful.

What characterized these studies was their interest in words as individual items or as substitutes for one another in the structure of written discourse. Now we turn to another set of studies that focused on multi-word units (e.g. collocations and idioms) in speech or writing. The review of such studies is especially important as binomials, the sole concern of the study reported here, can be viewed as collocations or idioms.

Hijjawi (1991) explored the acquisition status of collocation by 320 native speakers of Jordanian Arabic majoring in English. The subjects who belonged to different proficiency levels, i.e. first to fourth year students, gave the data by responding to a multiple choice task with synonymous distracters. The findings indicated that the subjects had serious difficulty with collocation. Farghal and Obiedat (1995) investigated how Jordanian EFL college learners and public school teachers of English interacted with collocations relating to topics such as food, color and weather. The findings indicated evident deficiency in the performance of both groups, who resorted to strategies of lexical simplification while trying to get the target items correct. Such strategies embraced synonymy, transfer, avoidance, paraphrase and correct collocation.

Malkawi (1995) focused on the Arabic-English translatability of collocations in political, social and military discourse. The study ascribed inappropriate translations to such variables as cultural disparity, incongruence between L1 and L2 vocabulary, literal translation and collocational structure (Malkawi 1995: 5). Driven by a similar interest, Fakhoury (1995) examined the strategies which a group of Jordanian MA students in translation used in handling collocations while doing an English-Arabic interpretation task. The findings showed that such strategies included, *inter alia*, message abandonment, compensation, paraphrase, filtering and approximation. Shakir and Shdeifat (1996) reported similar strategies while assessing the proficiency of Jordanian English majors on a translation task of Arabic collocations relating to topics such as food, clothing, politics, medication and weather. Hussein (1998) assessed the proficiency of a similar group of EFL learners in lexical collocation. He maintained that the subjects used three main strategies, viz. transfer, synonymy and avoidance. In an earlier study, Hussein (1988) referred to collocations as "the missing link in vocabulary acquisition among EFL learners." Al-Khanji and Hussein (1999) used a multiple choice task to assess the ability of 120 Arabic-speaking EFL learners at the University of Jordan to collocate English words. The subjects had considerable difficulty with the task and they employed three major strategies, viz. literal translation, semantic contiguity and lexical reduction.

Obeidat (2003) examined the ability of 30 MA translation students at Yarmouk University to translate a set of English body idiomatic expressions into Arabic. The findings showed that 52% of the subjects' overall performance was erroneous, an indication that such expressions pose a serious problem to Jordanian EFL learners regardless of their proficiency level.

For the present, it is worth noting that the studies reported above provide useful insights into the lexical knowledge of Arabic-speaking EFL learners at university level but one may wish to explore this knowledge at school level. Abdul-Fattah's (2001) study was an attempt in this direction. He used a multiple choice task to assess the ability of Jordanian EFL learners at the end of the basic education stage (i.e. grade 10) to interact with collocations that were common in their textbooks. He concluded that collocation remained a missing link from the English curriculum and pedagogy at school level in Jordan.

The review of related studies indicates that poor performance on collocation is a common feature of Jordanian EFL learners, regardless of proficiency level and task type. Table 1 shows that the accuracy rates on collocation as reported in seven studies ranged between 6% and 54%.

Table 1. Reported evidence of EFL learners' poor performance on collocation

Reference	% of correct responses	Level of subjects	Elicitation task
Shakir & Farghal (1992)	32	MA Translation	Interpreting
	52		Translation
Farghal & Obiedat (1995)	19	BA (Jun. & Sen.)	Translation and completion
	6	School teachers	
Malkawi (1995)	11	BA (Jun. & Sen.)	Translation
Shakir & Shdeifat (1996)	19.5	BA (1st year)	Translation
Al-Khanji & Hussein (1999)	54	BA (2nd year)	Multiple-choice
Abdul-Fattah (2001)	32	10th grade	Multiple-choice
Obeidat (2003)	34	MA Translation	Translation

The paper proceeds as follows. Section 2 provides a brief account of binomials, while Section 3 specifies the study objectives and significance. Methodology is described in Section 4. Findings are presented and discussed in Section 5, while impli-

cations and recommendations are provided in Section 6. Conclusions are presented in Section 7.

2. Binomials: A brief account

Malkiel (1959: 113) used the term 'binomial' to capture lexical pairs such as *choice and chance, little by little* and *heads or tails*. For him, a binomial is a label for "the sequence of two words pertaining to the same form-class, placed on an identical level of syntactic hierarchy, and ordinarily connected by some kind of lexical link". Malkiel maintained that while the constituents of a binomial such as *snow and cold* are reversible and even changeable by some semantically related items (cf. *cold and snow* and *wind and cold*), the sequence of a binomial such as *odds and ends* has become fixed. Gustafsson (quoted in Kadi 1988: 43) insisted that a semantic relationship, e.g. synonymy, antonymy, etc. should exist between the constituents of a binomial. Another term that refers to the same linguistic phenomenon, and has gained currency in the literature is 'conjoined lexical pair' (Farghal and Jaber 1995; Bakir 1999). Consequently, the two terms will be used interchangeably throughout the paper.

The two members of a binomial, as originally presented by Malkiel (1959), may be connected by a preposition or a conjunction. Nonetheless, the paper reported here deals with one type of link between the two items, viz. conjunction, and more specifically, using *and* rather than *but* and *or*. McCarthy and O'Dell (1994: 154) defined conjoined lexical pairs as "expressions (often idiomatic) where two words are joined by a conjunction (usually 'and'). The order [...] is usually fixed". Farghal and Jaber (1995: 100-101) distinguished between two types of conjoined lexical pairs, viz. transparent and opaque or idiomatic. While the meanings of the former directly derive from the members of the pair, the meanings of the latter do not. A major problem with this dichotomy is its fuzzy and indeterminate boundaries. For instance, Farghal and Jaber viewed *in and out, forgive and forget* and *facts and figures* as opaque, while Makki (1972) saw them as nonidiomatic. Apparently, the classification of lexical pairs into transparent and opaque implies some degree of subjectivity. Hence, opacity versus transparency is better viewed as a continuum rather than a dichotomy (Cruse 1986).

At this stage, one may wish to observe that only words belonging to the same form-class can be conjoined together. Below are illustrative examples of conjoined verbs, nouns, adjectives, prepositions and adverbs, respectively: *give and take, ups and downs, right and wrong, from and into* and *on and off*.

Jackson (1988: 103) differentiated between two types of multi-word units, viz. collocations and idioms. Collocations, unlike idioms, are not fixed expressions, "since there is always some degree of choice" between a lexeme and its collocates. On applying this distinction to the set of binomials used in this study, one finds that

combinations such as *men and women* and *tall and short* may be considered examples of collocation. In contrast, pairs such as *bread and butter* and *facts and figures* may satisfy the definition of idioms. Hatch and Brown (1995: 200) viewed the conjoined elements as "tight collocations." Similarly, Bakir (1999: 9) maintained that the conjoining "can be considered as some kind of a collocational process between items exhibiting close semantic links- though this may be of diverse nature".

Anyway, the classification of lexical pairs into collocations and idioms does not seem to be as easy as the reported examples may suggest. In reality, some researchers tend to look at idioms as special collocations (e.g. Nattinger 1980; Cruse 1986). In light of this, we find it convenient to consider binomials as collocational exemplars (see also Al-Khanji and Hussein (1999)).

3. Objectives

The primary concern of this study is to explore how two different proficiency level groups of Jordanian EFL learners at university level interact with a set of binomials that are frequently used in everyday language and appear recurrently in their ELT materials. More specifically, the study seeks answers to the following questions:

(1) Do Jordanian EFL learners at university level encode binomials as multi-word units in their L2 lexicon? An affirmative answer to this question implies that the presence of one member of the binomial will invoke the recall of the other. It is hoped that the answer to this question will provide insights into how EFL learners acquire and store multi-word units when the individual constituents of such units do not pose a problem to the learners.

(2) Since the subjects of the study belong to two different groups, to what extent does the amount of exposure to English as a foreign language influence the collocational ability of the learners?

(3) What compensatory strategies do Jordanian undergraduate students majoring in English use when they fail to provide the other member of the target binomial?

4. Methodology

4.1. Subjects

The subjects were two different proficiency level groups at the University of Jordan. The first group (G1) consisted of 50 first-year English majors (38 females and 12

males) with a mean age of 18; 6 years. At university, they received two three-credit hour courses in English, one in literature and one in language. Prior to this, they had eight years of formal instruction in EFL at school. The second group (G2) comprised 50 fourth-year English majors (40 females and 10 males) with a mean age of 21;7 years. Like the first group, they had eight years of formal instruction in EFL at school. At the time of data collection, they received around 22 three-credit hour courses evenly divided between literature and language/linguistics. Although the difference in proficiency level between the two groups is taken for granted by the faculty members in the Department of English, the results of an independent cloze test given to both groups provided empirical support. All the subjects were native speakers of Jordanian Spoken Arabic, who also had a working knowledge of Modern Standard Arabic. None of the subjects stayed in an English-speaking country for more than three months or had a parent who speaks English natively.

4.2. Data elicitation

The data were elicited through a written task which consisted of 30 items, each presenting one binomial. In light of the fuzzy boundaries between transparent and opaque binomials, the researcher, guided by the impressionistic judgements of two linguist colleagues, suggested that items 1, 5, 7, 8, 9,10,13,14, 16, 18, 20, 22, 23, 24 and 30 belong to the transparent set and the remainder to the opaque (see Appendix). The items were selected from a preliminary list of 90 binomials compiled by the researcher from ELT materials which the subjects used in their coursework or had easy access to. The task contained six conjoined items of each of the following lexical categories: verbs, nouns, adjectives, adverbs and prepositions. For both space limitation and the reader's convenience, the category of the conjoined members of each pair is indicated at the end of the sentence containing the target item in the Appendix.

Each target item appeared in one sentence but with the second member of the binomial being omitted and replaced by a blank space. The subjects, guided by an illustrative example, were asked to fill in the blank with the word which they thought best completed the sentence. To ensure the validity of the elicitation tool, ten native speakers of English (five British and five American) completed the task, and they were in 90% to 100% agreement in their responses to each stimulus item.

For insights into the nature and type of strategies which may underlie the faulty responses of the subjects, the researcher organized two voluntary introspection sessions, one for G1 and one for G2 one week after data collection. They were attended by 40 and 36 students, respectively. In the sessions, the subjects were introduced to the correct responses. They were also requested to explain as explicitly as possible how they interacted with each target item. In particular, they reported whether or not the target item was new to them, why they opted for a certain item, how they behaved linguistically while the decision making process was going on, why they avoided some items and how they would improve their lexical knowledge. The researcher took notes of these comments and explanations and used them as qualitative data to shed light on the type of strategies manipulated by different proficiency level EFL groups while interacting with binomials.

In this context, one may wish to observe that the validity of introspective insights in SLA is questioned by some researchers who argue that learners' reports may not truly reflect what goes on in their minds during the task (Seliger 1983). Others (e.g. O'Malley et al. 1985), however, reported that they were more successful in identifying learning strategies when they used introspection than when they relied solely on their own observations.

5. Results and discussion

The findings of the study are presented and discussed in two sub-sections, viz. (1) Performance and the language exposure variable, and (2) Strategies underlying faulty responses.

5.1. Performance and the language exposure variable

Table 2 provides the complete list of percentages of correct responses for each group of subjects (n = 50) on each stimulus binomial.

A glance at the means of correct responses suggests that the supply of the missing members of the target binomials constitutes a problem, though to varying degrees, to both G1 and G2; only 47.5 % and 68.8 % of their attempts turn out to be successful, respectively. The results of a t-test indicated that G2 did significantly better than G1 (n = 100, t = –9.488, p = 0.000, two-tailed).

Although both groups did rather well on collocation in comparison to other Jordanian EFL learners reported in the literature (see Table 1), their performance remains generally poor. This consolidates the findings of previous research that collocation is a major difficulty for Jordanian EFL learners, regardless of proficiency level and task type. The relatively higher achievement of the subjects might be ascribed to the nature of the task; the presence of one member of the target binomial might have formed a clue for some subjects to recall the other member. In other tasks such clues are either not available, e.g. translation or are disguised among distracters, e.g. multiple choice.

Despite the statistically significant differences between the mean scores of G1 and G2, the two groups showed striking similarities while interacting with the task. Two points are in order here. First, a further examination of Table 2 indicates that both groups scored 80% (or more) on nine items, while G2 had similar scores on ad-

Table 2. Percentage of correct responses for G1 and G2 on stimulus binomials

#	Stimulus binomial	G1	G2	#	Stimulus binomial	G1	G2
1	men and women	100	100	16	tall and short	80	90
2	bread and butter	2	10	17	now and then	36	68
3	forgive & forget	46	60	18	buy and sell	90	98
4	give and take	70	90	19	forward and backward	26	60
5	right and wrong	44	82	20	ups and downs	84	90
6	here and there	80	100	21	again and again	60	86
7	in and out	70	100	22	good and bad	86	96
8	new and old	90	100	23	wide and narrow	26	72
9	before and after	94	100	24	rise and set	54	76
10	inside and outside	90	98	25	facts and figures	0	8
11	hide and seek	8	32	26	over and above	2	6
12	back and forth	4	40	27	safe and sound	2	32
13	for and against	58	70	28	on and off	22	76
14	day and night	66	86	29	law and order	0	38
15	hit and run	16	40	30	below and above	18	60
Mean						47.5	68.8

ditional five. On the other hand, both groups scored 40% (or less) on eight items. This seems quite natural since 13 of the high accuracy level items belong to the transparent set, while all the low accuracy level items belong to the opaque set. In fact, a rank order comparison of accuracy levels for the two groups of subjects yielded a strong positive correlation. (The Spearman rank correlation coefficient r_s = 0.714 at the 0.01 level.) That is, what was easy or hard for G1 was also easy or (relatively) hard for G2. Secondly, one may observe that the hardest items are either culture-specific or relatively infrequent, e.g. *bread and butter, hide and seek, law and order* and *facts and figures*. The correlational analysis suggests that the apparent order of acquisition of binomials may be determined by some combination of transparency, frequency of occurrence and cultural specificity.

In light of the pervasive poor performance of Jordanian EFL learners on collocation, it may be argued that multi-word units in general and collocation in particular (binomials included) be given due attention and emphasis in ELT materials at both school and university levels. At school, this may take the form of carefully prepared instructional materials coupled with relevant exercises and activities that aim at developing the L2 learner's subconscious and conscious knowledge of the various types of multi-word units. At university level, one feels rather uncomfortable to discover that only two of the 20 English Departments in Jordan offer just one course in

lexicology and/or lexicography at the BA level. To bridge such a gap is probably the first systematic step in the long march to promote lexical knowledge in EFL learners. In the absence of independent vocabulary and lexicography courses, instructors may make a deliberate use of translation courses and skill courses to develop the EFL learners' knowledge of word meanings and collocation.

Al-Khanji and Hussein (1999: 145) posited that incidental occurrence of collocations in the syllabus may not trigger their automatic memorization and learning by EFL learners. While this observation remains generally valid, and thus calls for intentional and explicit assistance through instruction, one should not overlook or underestimate the role of unplanned occurrence of collocations in ELT materials over the years in promoting the communicative competence of EFL learners in the TL, whether these collocations are presented by means of explicit instruction or not. This conclusion gains support particularly from the significantly higher achievement of G2 in comparison with G1. G2 scored consistently higher than G1 on each and every item. In the absence of systematic and planned treatment of binomials in ELT material in Jordan, the significant improvement may be viewed as a by-product of further exposure to the TL. In particular, it may be suggested that EFL learners manage to pick up many collocations from exposure to the TL, including exposure to authentic texts that include culture-specific and low frequency items, but it takes a long time before they encounter these items enough times to learn them. In this context, direct instruction and planned presentation of binomials and other multi-word units may not only shorten the time needed for the learners to encounter these items but also maximize potential achievement.

The fact that G2 has outperformed G1 cannot be ascribed to difficulties which G1 encountered in understanding the words included in the binomials but to the growth of the collocational abilities of G2. Immediately after the administration of the task, the researcher asked G1 whether they had any difficulty understanding a list of individual words comprising the constituent members of the target binomials. Only two indicated that they did not know the meanings of *forth* and *figures*. Although the subjects' pseudo-knowledge of some of these words cannot be excluded (see also Hamdan 1997), one may still find it safe to claim that their failure to supply a certain target item was not always due to its complete absence in their lexicon; rather it was probably due to the absence of the target pair as an independent multi-word unit. However, failure to supply the missing constituent may also be ascribed to the learner's inability to activate the passive knowledge of the whole binomial. It seems that transparent pairs are acquired as multi-word units long before the opaque or idiomatic ones, and they are easier to retrieve. Consequently, explicit teaching, if to be used in the foreign language context, should focus on the latter.

One more point is in order. As the classification of binomials into transparent and opaque is somewhat elusive and rather subjective, the researcher finds it more convenient to view transparency as basically gradual. In this context, it is more practical to arrange binomials along a continuum with the two distinctions transparent

and opaque at either pole. This proposal gains support from the variable performance of the subjects on items within each type. For instance, within the transparent set, the G1 percentages of correct responses for *men and women, new and old, ups and downs* and *before and after* ranged between 84% and 100% but they ranged between 18% and 44% for *below and above, wide and narrow* and *right and wrong*. The G2 percentages of correct responses for the same subsets ranged between 90% and 100%, and 60% and 82%, respectively. Within the opaque set, the G1 percentages of correct responses for *again and again, give and take, here and there* and *safe and sound* ranged between 60% and 84% but they ranged between 0% and 8% for *facts and figures, law and order, bread and butter* and *hide and seek*. The G2 scores for the same subsets ranged between 86% and 100%, and 6% and 38%, respectively.

5.2. Strategies underlying faulty responses

The introspective data collected a week after the administration of the task provides a useful basis for the identification of the strategies underlying the subjects' faulty responses. A close examination of the data suggested that the subjects used a general problem-solving principle while interacting with the task; however, the output, in this case, was a deviant response or just a blank, i.e. no attempt. From an EFL learner's perspective, this principle may be spelled out as follows:

> To solve your problem (in this case providing the missing member of the binomial) use whatever clues you can identify in the immediate linguistic context alone, i.e. the sentence which contains the target item, or use whatever knowledge, linguistic (including L1 and L2 systems) or otherwise, available to you at the moment. If you fail, leave the target item for a while in hope that a solution will emerge. If no satisfactory solution emerges by the end of session, leave the problematic item undone.

Table 3 presents a list of the strategies underlying the production of deviant forms along with the percentage of responses for each one by each study group. The percentage of correct collocations is repeated here with a view to providing a complete picture of the subjects' performance.

5.2.1. Synonymy

Analysis of the numerical data, coupled with the output of the introspection session, suggested that synonymy, as a possible sense relation for the constituents of some binomials, was the most frequently used strategy by both G1 and G2, i.e. it constituted 20% and 13% of their total attempts, respectively.

Table 3. Strategies underlying faulty responses

Strategy	% of responses	
	G1	G2
1. Synonymy	20	13
2. Antonymy	15.3	11
3. Logical sequencing of events or states	4.5	2
4. Semantic approximation	4.5	2
5. Reiterating the stimulus (given) member	3	1.2
6. Overgeneralization	2	1
7. Abandonment	3	1
Correct collocation	47.5	68.8
Total	99.8	100

It seems that the subjects who used this strategy assumed, on the basis of previous experience with binomials in both L2 and L1, that the members of the pair are more likely to be synonyms. Hence, they screened their lexicon for a synonym or a near-synonym of the stimulus (given) member and filled it in the blank without observing collocational restrictions. Below are some illustrative examples[1]. The missing member of the target binomial is underlined and the number of the sentence containing it is given in brackets (see Appendix).

(1a) Binomial in context: *One of the strategies used in war is **hit** and <u>run</u>* (S 15)
(1b) Elicited constituents: G1: *damage* (8), *kill* (6), *shoot* (5); G2: *destroy* (9), *strike* (7)

(2a) Binomial in context: *The Jordan valley is a unique region in the world; it has places **below** and <u>above</u> sea level.* (S 30)
(2b) Elicited constituents: G1: *under* (18), *down* (5); G2: *under* (9)
(3a) Binomial in context: *The main duty of the new government is to keep **law** and <u>order</u>.* (S 29)
(3b) Elicited constituents: G1: *system* (8), *rule* (6), *regulations* (5); G2: *constitution* (5)

Apparently, the provision of these deviant forms is not totally unsubstantiated; in fact, there are cases where the two members of the binomial are synonymous, e.g. *bits and pieces, peace and quiet, sick and tired, null and void*, etc.

[1] Faulty responses that were made by less than five subjects (10%) are not provided to illustrate the proposed strategies.

5.2.2. Antonymy

Once again, the subjects who used antonymy as a strategy to interact with the target items assumed, on the basis of previous experience with binomials, that antonymy is a possible sense relation between the two members of the binomial. In this strategy, the responses were wrong due to the subjects' failure to observe collocational restrictions, rather than to their inability to identify the exact sense relation between the members of the pair. Table 3 shows that antonymy is the second most used strategy; it accounts for 15.3% and 11% of the total responses of G1 and G2, respectively. Below are illustrative examples.

(4a) Binomial in context: *People tend to make **right** and wrong decisions in their life.* (S 5)
(4b) Elicited constituents: G1: *false* (18); G2: *false* (5)

(5a) Binomial in context: *The door swung **back** and forth.* (S 12)
(5b) Elicited constituents: G1: *front* (37), *forward* (7); G2: *front* (15), *forward* (6)

(6a) Binomial in context: *One of the strategies used in war is **hit** and run.* (S 15)
(6b) Elicited constituents: G1: *defend* (5), *stay* (5)

The use of this strategy might have been reinforced by the subjects' awareness that the task included many binomials with antonym members, which they were 'pretty sure' that they got correct. However, the deviant responses were sometimes based on an idiosyncratic reading of the task sentences. For instance, one may not fail to figure out some 'logical and meaningful' reading of sentence (15) in the task (see (6a) above) if the deviant forms in (6b) are substituted for the target ones. In the introspection session, two of the subjects who substituted *defend* for *run* said that they understood the sentence as meaning: "One of the strategies used in war is hit (i.e. attack) and defend". A similar reading was proposed by a student who used *stay* for *run*, adding that *stay* meant 'don't escape'.

5.2.3. Logical sequencing of events or states

While interacting with the task, some subjects tended to think of a logical sequential relation (in terms of time, order, arrangement, etc.) between two events or states, one denoted by the stimulus constituent of the binomial and the other by the target one. This strategy was used in 4.5% and 2% of the total attempts of G1 and G2, respectively. Below are illustrative examples.

(7a) Binomial in context: *The door swung **back** and forth.* (S 12)
(7b) Elicited constituent: G1: *stopped* (5)

(8a) Binomial in context: *One of the strategies used in war is **hit** and run.* (S 15)
(8b) Elicited constituents: G1: *escape* (8), *go* (5); G2: *withdraw* (7), *escape* (6), *flee* (6)

(9a) Binomial in context: *Every **now** and then we have to study hard for the final exam.* (S17)
(9b) Elicited constituents: G1: *later* (15), *after* (6), *before* (5); G2: *later* (8) *afterwards* (5)

It seems that the faulty response in (7b) was based on the understanding that the door was closed, then swung once and stopped swinging. The logical sequential relation between the stimulus member *hit* and the deviant forms in (8b) is evident. Some subjects commented that what one would logically do in a battle is hit and escape, go, withdraw or flee. The deviant forms in (9b) show a time sequence relation with the stimulus member.

5.2.4. Semantic approximation

The subjects who used the strategy of semantic approximation tended to fill in the blank space with a word whose individual meaning or multi-word unit meaning in the binomial contributes to approximating a reasonable meaning of the whole sentence that the learner can think of in the given circumstance. This strategy was used in 4.5% and 2% of the total attempts of G1 and G2, respectively. It seems that the subjects who used this strategy were aware of the restrictions which the stimulus (given) constituents in each case place on their choices. Hence, they applied their own logic using whatever clues available in the context to get the target item right, and, as it happened, the faulty responses (as one group) in the task did not have one and only one definitive sense relation with either member of the binomial. For instance, a subject who used *money* for *butter* in *bread and butter* (S 2) said that one earns money rather than bread and 'something else' so he ignored the stimulus item and inserted *money*. Put another way, *money* was motivated by the verb *earn* rather than by *bread* or *butter*. Another one commented: "If one earns bread, the he can earn meat or anything else". A third student who substituted *winning* for *sound* in *safe and sound* (S 27) said: "After the battle the soldiers won and they were safe". Below are further details and examples.

(10a) Binomial in context: *John earns his **bread** and butter as a teacher of English.* (S 2)
(10b) Elicited constituents: G1: *money* (10), *salt* (8), *meat* (6), *food* (6), *cheese* (5); G2: *cheese* (7), *money* (6), *salt* (5)

(11a) Binomial in context: *When the battle was over, all soldiers were **safe** and sound*. (S 27)
(11b) Elicited constituents: G1: *happy* (10), *tired* (8), *winning* (6); G2: *happy* (7), *anxious* (6), *victorious* (5), *winning* (5)

5.2.5. Reiterating the stimulus (given) member

The subjects who used this strategy simply reproduced the stimulus member in the space provided. This was attested in 4.5% and 2% of the total attempts of G1 and G2, respectively. On discussing some of the faulty responses with the subjects, the researcher received equivocal comments. For instance, three subjects said that they wanted to reiterate or amplify the stimulus member of the binomial. Four reported that they modelled their responses to binomials that contain prepositions or adverbs on pairs such as a*gain and again*, *round and round*, etc. Yet, the error data revealed that the use of this strategy was not restricted to a particular lexical category (N, V, Adj, etc.) of the given constituent. A third possible reason underlying the use of this strategy is a combination of conscious ignorance and 'play it safe' strategy. One subject said that she knew, on the basis of previous experience, that the conjunction 'and' links two identical words. She added, "When I felt I didn't know the target item I sometimes repeated the stimulus; at least this was better than leaving it blank or providing a clear error". Of course, other reasons, e.g. carelessness, translation, etc. cannot be excluded. The following examples illustrate the use of this strategy.

(12a) Binomial in context: *We do not meet everyday, we have meetings **on** and off*. (S 28)
(12b) Elicited constituent: G1: *on* (12); G2: *on* (8)

(13a) Binomial in context: *People have to work **day** and night to earn their living*. (S 14)
(13b) Elicited constituent: G1: *day* (6); G2: *day* (5)

5.2.6. Overgeneralization

It seems that the subjects who used overgeneralization had in their lexicon a binomial whose first constituent is identical to the given stimulus; hence, they retrieved the whole pair and provided the missing member on the assumption that it was the required one. Below are illustrative examples.

(14a) Binomial in context: *John earns his **bread** and butter as a teacher of English*. (S 2)
(14b) Elicited constituent: G1: *water* (8); G2: *water* (6)

(15a) Binomial in context: *The sun does not **rise** and set at the same time in all countries*. (S24)
(15b) Elicited constituent: G1: *shine* (12); G2: *shine* (6)

As is clear, the overgeneralized binomials are *bread and water* and *rise and shine*, respectively. The former means 'plainest possible food' and the latter means 'get out of bed and be active' (Cowie 1989). Apparently, the subjects' knowledge of the pairs stored in their lexicon was defective. There is a likelihood that the provision of the missing constituent was based on an idiosyncratic reading of the sentence containing the pair, which was 'sufficient' at the time of data collection to trigger a plausible meaning that convinced the user that s/he got the target item right.

5.2.7. Abandonment

The subjects who adopted this strategy left the target item unattempted. Shakir and Farghal (1992: 237) used the term 'message abandonment' while Shakir and Shdeifat (1996) and Abdul-Fattah (2001) used the term 'avoidance' to refer to the strategy which their subjects employed when they made no response. The whole set of reasons underlying the use of abandonment (which is equivalent to silence in oral discourse) as a passive interactive strategy by different proficiency EFL learners are not yet known. Conscious ignorance, time limitation and lack of seriousness are possible reasons. In the introspection session, some subjects who did not try *bread and butter* said that they did so because they did not want to appear "absurd" by providing "a clearly irrelevant answer". Two subjects who left *hide and seek* unattempted claimed that they 'knew the target item' but they could not recall it; they left the task item for a while but the answer did not emerge before the session came to its end. As it happens, the use of this strategy was infrequent by the two groups; however, it was more evident in the G1 data.

Before closing this sub-section, the following remarks are worth highlighting.

(1) As stated earlier, the identification of strategies underlying faulty responses was motivated mainly by the subjects' comments and explanations in the introspection session. Nonetheless, the proposed strategies remain tentative and may sometimes overlap or show fuzzy boundaries. For instance, the wrong use of *happy* for *sound* in *safe and sound* (see (11) above) was ascribed to semantic approximation in light of the insights developed from the introspection session. However, synonymy or near-synonymy with the stimulus item or even logical sequencing of two states cannot be totally excluded if faulty responses are examined in the absence of the learners who gave the data. Consequently, the tentative identification of strategies may lead to a change in their frequencies and rank order.

(2) The ideas and comments collected from the introspection session and the subjects' actual responses indicate that sense relations, particularly synonymy and antonymy, are very powerful underlying forces that direct and influence the process of interaction with collocation. The findings of the study reported here provided further supportive evidence that synonymy, in particular, is a major strategy which EFL learners, regardless of proficiency level, tend to apply while interacting with multi-word units (see also Farghal and Obiedat 1995; Abdul-Fattah 2001 and Obeidat 2003). In this regard, such learners should be cautioned against a learner-based belief that synonyms are 'interchangeable in all contexts.' In fact, many linguists doubt whether strict synonymy is a possible sense relation in language (Jackson 1988: 66).

(3) Analysis of the data shows that the subjects were, more often than not, able to observe structural parallelism in the target binomials, i.e. they were aware that only words belonging to the same part of speech could be conjoined. Put differently, the subjects did not tend to conjoin, for instance, a noun with a verb or an adjective with an adverb. It seems that the structural category of the given member of the pair served as a guideline that assisted the learners to limit the range of their options. The very few cases of structural mismatch between pair constituents were characteristic of the G1 data. Below is an illustrative example.

(16a) Binomial in context: *You must be clear, Ali .You can't be for and against my proposal at the same time.* (S 13)
(16b) Elicited constituent: G1: *reject* (5)

It seems the subjects who substituted *reject* for *against* correctly perceived that the intended meaning of the binomial is *support and reject* but they did not know that the pair *for and against* can convey this meaning.

A final comment on correct collocations provided by the subjects is worth making. As is clear from Table 3, correct collocations are not suggested as a strategy. Presumably, if a learner knows a binomial, s/he will use the given member as a stimulus to recall the missing one. Failure to do so is essentially due to retrieval problems. To activate or speed up the retrieval process, the learner may exploit all or some of the possibilities available to him/her within the framework of the general problem-solving principle outlined at the onset of this sub-section. This, of course, should not exclude the use of some of the strategies proposed above as transitional and intermediate strategies for retrieving the target item. Apparently, these strategies become unsuccessful once the recall process fails completely or results in a deviant form.

6. Implications and recommendations

6.1. Language learning and teaching

Current research has shown, beyond doubt, that multi-word units are a hurdle for EFL learners and school teachers alike (see Section 1). Incidental learning of L2 vocabulary through reading is unquestionable. However, for learning of collocations to take place, one may consider a host of intervening variables such as item transparency, frequency of occurrence, cultural specificity, presentation methods in the syllabus (e.g. contextualized, isolated), learner's interest in the item, etc. The findings of the study reported here implied that what may be viewed as incidental and sporadic occurrence of one type of multi-word units in ELT materials, i.e. binomials, did eventually instil some of them in the lexicon of EFL learners. This observation gained support from the significantly different performance shown by the two proficiency level groups. Whether planned and systematic presentation of such items on the one hand and explicit teaching of them on the other would shorten the time needed to make significant achievement in the learners awaits further research.

It is commonplace that rules and principles that determine the collocability of words are, for the most part, sought in the extra-linguistic world, e.g. human interaction with the physical and social environment, psychological and emotional status of interlocutors, etc. In this context, and until the exact role of systematic presentation and explicit instruction in the acquisition of multi-word units be specified, we suggest that explicit teaching and drilling of binomials should aim, *inter alia*, at highlighting the importance of these items in developing idiomaticity and conversational abilities in EFL learners. This may involve systematic contextual presentation of such items, guiding students to guess their meanings or look them up in general and specialist dictionaries, and then asking them to use the newly introduced items in sentences of their own. Further, this may include drawing students' attention to the parallel structure of pair constituents (e.g. noun and noun, verb and verb, etc.). Students may also be helped to identify sense relations between pair constituents (e.g. synonymy, antonymy, etc.). Moreover, they may be involved in both oral and written activities that require them to provide the missing member of the pair, choose the right pair to complete a sentence, match a list of idiomatic pairs with their meanings/paraphrases, translate (from English into Arabic and vice versa) authentic texts that contain binomials, etc.

6.2. Translation and contrastive analysis

Despite the fact that binomials abound in both English and Arabic, they have not yet been the focus of an independent study in translation. The literature on English-Arabic translation (see Section 1) shows a growing body of studies exploring how

Jordanian/Arab EFL learners interact with collocation in translation and interpreting. However, not a single study has had binomials as its prime concern. It is believed that conjoined lexical pairs, particularly, the opaque ones, are a feasible research candidate in this regard. Likewise, English-Arabic contrastive studies have hardly started to address binomials. The only studies the researcher is aware of are Kadi (1988) and Bakir (1999). The first highlighted the similarities and differences of binomials in English and Arabic on the phonological, morphological, and syntactic levels. The treatment of the semantic, stylistic and pragmatic aspects leaves much to be desired. The second study investigated the ordering principles in binomials in both English and Arabic.

7. Conclusions

This study is intended as a further contribution to lexical development research. In particular, it has explored the interaction of two proficiency level groups of Jordanian EFL learners at university level with a set of frequently used binomials.

Analysis of the data indicated that both the G1 and G2 subjects had considerable difficulty supplying the missing members of the target binomials. Only 47.5 % and 68.8 % of their attempts were successful, respectively. However, the significantly different achievement of the two groups suggested a positive role for 'incidental' successive exposure to binomials in improving the performance of EFL learners on both transparent and idiomatic pairs. Moreover, the rank order comparison of the performance of G1 and G2 suggested that apparent order of the acquisition of binomials might be determined by a combination of variables such as transparency, frequency and cultural specificity. The subjects' failure to provide the missing member of a certain binomial was not always due to its complete absence in their lexicon; rather it could be ascribed to the absence of the whole binomial as a multi-word unit. However, failure may also be a reflection of the learner's inability to activate the passive knowledge of the binomial. Of relevance here is that the transparent pairs seem to be acquired as multi-word units long before the opaque or idiomatic ones, and they are easier to retrieve. Therefore, if explicit teaching is to be used in the foreign language context, it should focus on the latter. However, in the absence of courses in lexicology and/or lexicography at the BA level in English departments in Jordan, instructors should be encouraged to utilize both translation and skill courses to develop their students' knowledge of word meanings and collocation.

The introspective data were of great value in developing insights into how Jordanian EFL learners interact with binomials. These data suggested that the deviant forms could be explained, tentatively, in the light of seven strategies. The results indicated that sense relations, particularly synonymy and antonymy, are very powerful underlying forces that direct and influence the process of interaction with collocation. Other strategies included logical sequencing of events or states, semantic approximation, reiterating the given member of the binomial, overgeneralization and abandonment. With the exception of very few cases in the IG data, all deviant forms showed that the subjects were able to observe structural parallelism in the target binomials; they were aware that only words belonging to the same part of speech could be conjoined. For instance, they did not tend to conjoin a noun with a verb or an adjective with an adverb.

The study concluded with some implications and recommendations in the fields of language learning and teaching, translation and contrastive analysis.

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APPENDIX

Elicitation Task

Fill in the blanks in the following sentences with the word which you think most likely fits the context.[2] Below is an example.

As a university student, you'll enjoy your education, but it won't all be **fun** and ..... .
As a university student, you'll enjoy your education, but it won't all be **fun** and games.

1.	Both **men** and women must cooperate in building up their societies.	(N+N)
2.	John earns his **bread** and butter as a teacher of English.	(N+N)
3.	I think it's time to **forgive** and forget; we haven't talked to each other for a long time.	(V+V)
4.	If John and Mary believe in **give** and take, they can solve most of their problems.	(V+V)
5.	People tend to make **right** and wrong decisions in their life.	(ADJ + ADJ)
6.	The house was in a mess, the papers were thrown **here** and there.	(ADV +ADV)
7.	Students moved **in** and out of their class during the break.	(PREP + PREP)
8.	Mr. and Mrs. Badri were happy to see all their **new** and old friends.	(ADJ + ADJ)
9.	There's going to be a break **before** and after the second lecture.	(PREP + PREP)
10.	The children were playing **inside** and outside their house.	(PREP + PREP)
11.	Ahmad used to play **hide** and seek when he was a child.	(V+V)
12.	The door swung **back** and forth.	(ADV +ADV)
13.	You must be clear. You can't be **for** and against my proposal at the same time.	(PREP + PREP)
14.	People have to work **day** and night to earn their living.	(N+N)
15.	One of the strategies used in war is **hit** and run.	(V+V)
16.	Both **tall** and short students sat in the front row.	(ADJ + ADJ)
17.	Every **now** and then/again we have to study hard for the final exam.	(ADV+ ADV)
18.	Knowing how to **buy** and sell is very important for any shopkeeper.	(V+V)
19.	Suzy kept looking **forward** and backward searching out her missing child.	(ADV+ ADV)
20.	It's quite natural that everyone goes through **ups** and downs in his life.	(N+N)
21.	I've told you **again** and again not to shout in my presence.	(ADV+ ADV)
22.	We all remember **good** and bad times in our life.	(ADJ + ADJ)
23.	This town has **wide** and narrow roads.	(ADJ + ADJ)
24.	The sun does not **rise** and set at the same time in all countries.	(V+V)

[2] For the reader's convenience, the target words are underlined, and the lexical categories of the constituents of each binomial are provided.

25. We need more **facts** and <u>figures</u> before we can make a decision.	(N+N)
26. He gets tips **over** and <u>above</u> his wages.	(PREP + PREP)
27. When the battle was over, all soldiers were **safe** and <u>sound</u>.	(ADJ + ADJ)
28. We do not meet everyday, we have meetings **on** and <u>off</u>.	(ADV+ ADV)
29. The main duty of the new government is to keep **law** and <u>order</u>.	(N+N)
30. The Jordan valley is a unique region in the world; it has places **below** and <u>above</u> sea level.	(PREP + PREP)