GLOCER'21

VOLUME 4

ADVANCES IN GLOBAL EDUCATION AND RESEARCH

Editors:

Dr. Waynne B. James
Dr. Cihan Cobanoglu
Dr. Muhittin Cavusoglu

Co-Editors

Dr. Waynne James, University of South Florida, USA
Dr. Cihan Cobanoglu, University of South Florida, USA
Dr. Muhittin Cavusoglu, Northern Arizona University, USA

ADVANCES IN GLOBAL EDUCATION AND RESEARCH: VOLUME 4

*Authors are fully responsible for corrections of any typographical, copyrighted materials, technical and content errors.

Co-Editors

Dr. Waynne James, University of South Florida, USA
Dr. Cihan Cobanoglu, University of South Florida, USA
Dr. Muhittin Cavusoglu, Northern Arizona University, USA

Assistant Editor

Dr. Alia Hadid, University of Rhode Island, USA

Editor Assistants

Zahra Alrushdy, Bahcesehir University, Turkey
Gokhan Sener, Necmettin Erbakan University, Turkey
Abraham Terrah, University of South Florida, USA

*Authors are fully responsible for corrections of any typographical, copyrighted materials, technical and content errors.

Frequency and Development of Collocations in Turkish EFL Learners' Essays

Didem Koban Koc

Faculty of Education
Izmir Democracy University, Turkey

Abstract

The aim of the present study is to analyze the frequency and development of collocations found in the essays of Turkish learners of English as a foreign language (EFL) across different proficiency levels. The learners were enrolled in the English Preparatory School of the School of Foreign Languages at a government university in Turkey. The study compared 25 intermediate, 25 upper-intermediate, and 25 low-advanced level EFL learners in terms of using adjective+noun and verb+noun collocations in essays and determined whether or not there would be an improvement in using such collocations as the learners' proficiency developed over time. The results of a multivariate analysis of variance showed a statistically significant difference among the groups with respect to the use of collocations and a statistically significant difference between intermediate and upper-intermediate students as well as between intermediate and low-advanced students when the adjective+noun collocations were considered. Although the students seemed to improve their use of verb+noun collocations as their proficiency level increased, no statistically significant differences were observed among the proficiency levels.

Introduction

Formulaic sequences (FS), multi-word phrases, or chunks defined as "a sequence, continuous or discontinuous, of words or other meaning elements, which is or appears to be, prefabricated: that is, stored and retrieved whole from memory at the time of use, rather than being subject to generation or analysis by the language grammar" (Wray, 2002, p. 465) have become a highly important topic in the field of linguistics and teaching and learning a second or a foreign language. According to Zwitserlood (1994), FSs may have different lengths, appear in different forms and may not be semantically transparent. They can occur as collocations, proverbs, exclamations, and discourse particles (Schmitt & Carter, 2004). Although there is not an agreement regarding the definition and identification of such phrases or formulas among scholars, there is now a broad consensus about the fact that FSs improve speech fluency, help language learners sound more native-like and enable them process language efficiently (Millar, 2011). As Millar (2011) stated "access to these pre-fabricated chunks by working memory requires substantially less processing capacity than access to, and subsequent manipulation of, their individual components. This reduces the processing burden" (p.131). Scholars also agree on the fact that written and spoken communication in a language requires the use of FSs to a great extent. For example, in an influential study, Biber and Barbieri (2007) investigated the usage of FSs in spoken and written

registers that took place in four universities. The corpus that the authors used was the sub-component of the Test of English as a Foreign Language (TOEFL) 2000 Spoken and Written Academic Language. The spoken and written registers involved classroom teaching, textbooks, course syllabi, study groups and so on. The texts were taken from several different disciplines such as Engineering, Natural Science, Business, Social Science, and Education. According to the authors, FSs made up 30 % of spoken discourse and 21 % of academic texts. Higher percentages related to FSs were also reported in a study conducted by Erman and Warren (2000). The authors found that the FSs made up 58.6 % of spoken discourse and 52.3 % of written texts. Hill (2000), on the other hand, found that FSs made up nearly 70 % of what is heard, written and said. Given the fact that FSs are predominantly used in speech and writing, they have received increased attention from scholars. For instance, Conklin and Schmitt (2008) investigated whether or not there would be a difference between native and non-native English speakers with respect to the processing of FSs. The authors formed a list of 20 idioms from Underwood, Schmitt, and Galpin (2004) and from the Oxford Learner's Dictionary of English Idioms (Warren, 1994). The participants were 19 native speakers of English and 20 non-native speakers enrolled in the master's program in English language teaching at the University of Nottingham, UK. The participants were engaged in a self-paced reading task. The results showed that both native and non-native speakers read the FSs faster than the control phrases, which led the authors to conclude that FSs made language processing easier.

The present study focuses on the use of one type of FS, which is collocation. It aims to analyze the frequency and development of collocations found in the essays of Turkish learners of English as a foreign language (EFL) across different proficiency levels. The rationales behind the present study stemmed from two factors. First of all, although there is a considerable number of studies that analyzed the development of collocations and other formulaic sequences in second and foreign language environments, there is a lack of such studies in the Turkish context. The use of collocations by Turkish learners of English has been neglected. Secondly, although there has been few such studies, not many of them compared different proficiency levels in terms of collocational development and frequencies. Given these, the current study aimed to fill these gaps by examining the two frequently used collocations, adjective + noun and verb + noun, in the written language of EFL learners and determined whether the use of collocations improved as learners made progress in their use of English. The following section provides the different approaches to collocations followed by a review of previos studies, research questions, methodology, findings, and conclusions.

Collocations

Collocation has been a widely studied topic in the field of teaching and learning a second or foreign language. Although the term collocation is basically considered as words occurring together in the same context, scholars defined it in different ways. Firth (1957) was one of the first scholars who proposed a definition of collocation. Firth stated that collocations are semantically related words that occur together and added that "you shall know a word by the company it keeps" (p. 179), that is, the meaning of a word can be determined by the words that it occurs with. Along the same lines, Halliday and Hasan's (1976) definition of collocation involved semantically related items such as restaurant, chef, and table attendant, which belong to the same context. Hausmann (1985), on the other hand, considered collocations as involving only content words and not function words. According to Kjellmer (1987, p.133), collocations are "... a sequence of words that occurs more

than once in identical form ... and which is grammatically well structured". Nattinger (1988) and Clear (1993) proposed similar definitions.

Collocations were examined from several different perspectives. From a frequency-based approach, collocations were defined as the extent to which certain words occur together (Halliday, 1966; Sinclair, 1991). According to this approach, some words are more likely to occur with certain words than others. For example, the word 'machine' is more likely to occur with 'powerful' than 'strong'. An important criterion proposed by Sinclair was 'space'. He defined collocations as "the occurrence of two or more words within a short space of each other in a text" (1991, p. 415). He stated that:

> We may use the term node to refer to an item whose collocations we are studying, and we may define a span as the number of lexical items on each side of a node that we consider relevant to that node. Items in the environment set by the span we will call collocates.

Similarly, Clear (1993, p. 276) stated that: "Intuitively, one would expect that a given node word would associate more strongly with immediately adjacent words, and that the associative link would be weak or non-existent the further removed are the collocating words." Another approach to examining collocations was concerned with semantics. The semantic approach attempted to explain the reason why words tend to occur more with certain words, which the frequency-based approach did not take into account. The third approach, the structural approach, on the other hand, took the role of grammar into consideration. The proponents of the structural approach (Nesselhauf, 2005; Benson, Benson & Ilson, 1997) were of the opinion that lexicon cannot be analyzed separately from structure. For example, the collocation 'by accident' consists of a preposition followed by a noun (Bahns, 1993). There is a consensus among scholars with respect to what constitutes grammatical categories. For instance, according to Gitsaki (1996), there are a total of 37 categories of collocation. Among these, eight are lexical collocations and 29 grammatical. Grammatical collocations consist of content words such as nouns, adjectives, verbs and a preposition or grammatical words.

Literature Review

During the past few years, scholars have focused on different aspects of acquisition and use of collocations by EFL and English as a second language (ESL) learners. Studies comparing different proficiency levels as well as native and non-native speakers with regard to collocational accuracy and frequency were also the focus in many studies (Huang, 2001; Nesselhauf, 2003; Siyanova-Chanturia, 2015). For example, Huang (2001) analyzed the frequency of occurrence of lexical bundles in the essays written by Chinese EFL students and the extent to which the lexical bundles were used accurately in their essays. The students were beginner and advanced students of English enrolled in universities in China. The author found a significant difference between the two groups with respect to the frequency of use of collocations, that is, the advanced students used lexical bundles with a wider variety and more frequently than the beginner students. However, the advanced students did not use them more accurately than the beginner students. Thus, the author recommended explicit instruction to improve EFL learners' vocabulary knowledge. In a study that involved both qualitative and quantitative analysis, Fan (2009) explored the collocational use by secondary school ESL students. The researcher made use of two corpora: a native corpus and a non-native corpus. The native corpus included 60 essays written by British students whereas the non-native corpus included also 60 essays written by students who spoke Cantonese. The

participants were 15 and 16-year-old students. The essays were based on describing a picture that was given by the researcher. According to the results, Cantonese speakers used fewer and restricted range of collocations than the British speakers. In addition, the author determined that the Cantonese speakers' first language (L1) as well as spelling, pronunciation and loose synonyms in English had a negative effect on learning English. In a similar study, Siyanova and Schmitt (2008) analyzed how adjective+noun collocations were processed by Russian learners of English and native speakers (NS) of English. 810 adjective+noun collocations were identified and extracted from 31 essays written by non-native speakers (NNS). A comparison of NS and NNSs showed that there was very little difference between the two groups regarding the use of appropriate collocations, however, the two groups differed from each other in terms of processing collocations and fluency, that is NNSs were slower in processing collocations and less fluent than NSs. Laufer and Waldman (2011) examined the use of English verb-noun collocations in the argumentative and descriptive essays of high school students in Israel and prospective English language teachers and learners enrolled in the English department at a university. The learners were categorized into three proficiency groups. The 9th and 10th grade learners in high schools were at a basic level of English, 11th and 12th graders were at an intermediate level, and college students were at an advanced level. The authors performed two types of comparisons using the LOCNESS corpus from which they extracted the most frequently used verb-noun collocations. The comparisons were made based on the accuracy and frequency of collocations. First, a comparison was made between the EFL learners and native speakers of English and another one was made among the learners at different proficiency levels. The results showed that the EFL learners used fewer collocations than the native speakers. The advanced level students used collocations at a higher rate than the other proficiency groups. However, the authors also reported a contrastive result which showed that the number of errors in the use of verb-noun collocations produced by advanced level English language learners was very similar to those at basic and intermediate levels. A similar finding was also reported in Nesselhauf (2005).

In the Turkish context, Bağcı (2014) carried out a study that compared pre-intermediate and advanced level Turkish learners of EFL enrolled in an English preparatory school in a state university. Bağcı compared the two groups in terms of their receptive and productive collocational knowledge as well as their lexical and grammatical knowledge. The data were collected via two instruments: an acceptability judgment test and a gap filling test. The findings showed a significant difference between the two groups regarding receptive and productive levels, suggesting that proficiency in English had a positive effect on the learners' collocational knowledge. Additionally, the advanced level learners performed at a higher rate than the intermediate learners with respect to the verb+noun collocations, however, this difference was not significant.

The knowledge and development of collocations were also the focus of longitudinal studies. Crossley and Salsbury (2011) analyzed the oral production of six English language learners in terms of accuracy and frequency of use of collocations. After a year of observing the learners, the authors found that the longer time spent in learning English, the more accurate collocations the learners used and the bigger their lexical repertoire became. Another longitudinal study (Qi & Ding, 2011) investigated the use of FSs by Chinese learners of English. In an attempt to understand whether or not there would be an improvement in the learners' use of FSs regarding frequency, accuracy and variation, the authors used audio recordings of Chinese and American students. The recordings were collected between 2001 and 2004, when the students were in their first and fourth years. In the recordings, the students were asked to talk about college students renting apartments

off campus. The performance of Chinese learners was then compared with that of 15 American students. The results showed that the Chinese learners in their fourth year used FSs more frequently and accurately than in their first year. Their FSs were also more varied than before. However, their use of FSs was not as accurate as those of native speakers. The author attributed this result to the fact that FSs contained prepositions and articles, which could be difficult for English language learners to process and use. Finally, Siyanova-Chanturia (2015) explored the development of collocational knowledge among L2 learners in a longitudinal study. The author questioned whether or not Chinese students learning Italian as a second language would improve in their use of noun+adjective collocations in terms of both quality and quantity. Data were collected from 36 learners (21 females, 15 males) who were enrolled in an intensive Italian language program at a university. Compositions that students wrote at the beginning, in the middle and at the end of the semester were analysed. The results showed that the more time the students spent in Italy, the more successful they became at using collocations. In addition, the compositions written at the end of the semester consisted of highly frequent and strongly associated collocations.

Research Questions

The following research questions were addressed in the study.

- What are the differences among intermediate, upper-intermediate, and low-advanced EFL learners with respect to the rate of use of adjective+noun and verb+noun collocations in English?
- Is there a significant improvement in the use of adjective+noun and verb+noun collocations by EFL learners at different proficiency levels over time?

Methods

Sample

The aim of the present study was to compare different English language proficiency groups in terms of their development gains in the use of adjective+noun and verb+noun collocations. The study followed a quasi-experimental research design. Convenience sampling model was used to collect the data. The corpus was derived from the essays written by EFL learners who were enrolled in the English language school of a government university in Turkey. The language school has an intensive English language program that aims to improve students' English language skills so that they are prepared to undertake courses in English in their academic programs at the university. Based on a proficiency exam taken at the beginning of the school year, the learners in the language school are placed in different proficiency levels. This research focused on three levels: intermediate, upper-intermediate, and low-advanced. There were a total of 75 students, 25 students in each level. The students ranged in age from 18-22. At the time of the study, the learners were exposed to 25 hours of English language instruction per week. All the instructors followed the curriculum designed by the school administration and thus, the students were exposed to similar textbooks and materials. Each semester lasted for about 14 weeks. At the end of each semester, the students took a placement exam, which consisted of reading, listening, vocabulary, and grammar tests as well as a writing section that required the students to write an essay under time constraint. The students came from similar socio-economic backgrounds. They all spoke Turkish as their first language.

Data Collection

The data consisted of essays that students wrote for their placement exam at the end of a Spring semester. All the students had taken English courses in the program prior to data collection. The learners in each level were asked to write an argumentative essay about different topics. Intermediate level students wrote about the family life today; upper-intermediate level learners wrote about the advantages and disadvantages of marrying someone of different nationality; and low-advanced level students wrote about the importance of education in the development of a country. The essays consisted of at least 300 words. The learners completed their essays in class in 90 minutes.

Findings

The present study was approved by the Ethics Committee for the protection of animals and human subjects at the university in which the study took place. For the purpose of the study, collocations consisting of only adjective+noun and verb+noun were analyzed. With regard to adjective+noun collocations, only attributive adjectives were included in the analyses. In addition, only collocations that were accurately used by the speakers were included in the study. After the learners wrote their essays, the collocations were identified and extracted manually from the corpora by a trained research assistant who read the essays more than once and ensured all target collocations were included. Then, the Corpus of Contemporary American English (COCA) was used to check the extracted collocations' phrasal frequency. COCA is a widely used corpus of American English that contains more than 560 million words and involves academic texts, popular magazines, fiction, spoken and newspapers. Following Siyanova and Schmitt (2008), the items that occurred less than six times in the corpus were excluded from the analysis. The data were analyzed using the Statistical Package for the Social Sciences, version 24 (SPSS). To answer the first research question, which is related to the differences among the three different proficiency groups with respect to the rate of use of adjective+noun and verb+noun collocations in English, first, descriptive statistical analysis was performed. The following table shows the total number of adjective+noun and verb+noun collocations used by all proficiency groups.

Table 1. Number of Adjective+Noun and Verb+Noun Collocations Used by Each Proficiency Group

Proficiency groups	N. of Essays	N. of adjective+noun collocations	N. of verb+noun collocations
Intermediate	25	312	272
Upper-intermediate	25	492	273
Low-advanced	25	502	292

As the table shows, the number of adjective+noun and verb+noun collocations was the most for the low-advanced group, followed by upper-intermediate and intermediate. To answer the second research question, which was whether there would be a significant difference among the proficiency levels in terms of the use of adjective+noun and verb+noun collocations, a Multivariate Analysis of Variance (MANOVA) was performed. The independent variable was the proficiency level of the students whereas the dependent variable was their use of adjective+noun and verb+noun collocations. The results are shown in the following table.

Table 2. Results of MANOVA Across Two Proficiency Groups in Collocations

Use Type	Df	Λ	F	
All three	6	.64	5.65*	
*p =.000				
Collocations	Groups	N	M	SD
	Intermediate	25	12.08	5.12
Adjective+noun	Upper-Intermediate	25	19.68	6.71
	Low-advanced	25	19.92	3.71
	Intermediate	25	10.88	3.84
Verb+noun	Upper-Intermediate	25	11.60	4.96
	Low-advanced	25	11.68	5.28

Table 2 shows the results related to the use of adjective+noun and verb+noun collocations. The intermediate level learners used adjective+noun and verb+noun combinations at the lowest rate and low-advanced learners at the highest rate. There was a statistically significant difference among the groups as determined by MANOVA, F (6, 140) = 5.90, p = .000; Wilks' Lambda = .63; partial eta squared = .20. When the findings regarding the collocations were considered separately, only adjective+noun collocations, F (2,140) = 17.49 p=.000, partial eta squared = .327 were statistically significant. A Tukey post hoc test revealed a significant difference among the proficiency levels with regard to the use of adjective+noun collocations only. There was a significant difference between intermediate (M = 12.08, SD= 5.12) and upper-intermediate (M = 19.68, SD= 6.71) as well as intermediate (M = 12.08, SD= 5.12) and low-advanced level (M = 19.92, SD= 3.71) Although the students seemed to improve their use of verb+noun collocations as their proficiency level increased, no statistically significant differences were observed among the proficiency levels. The following section provides sample adjective+noun and verb+noun collocations from the corpus.

Sample Adjective+Noun and Verb+Noun Collocations From the Corpus

The adjective+noun collocations are underlined and verb+noun collocations are shown in italic.

Intermediate Level

> First and foremost reason is that there was not any <u>technological phones</u>, computers, TVs, etc. There was not any kinds of problems, so children *found nothing* for interested in. To give an example, they were talking, playing and argue with each other, so the life was better and <u>free time</u> was more than now. Secondly, there were not any lies to say. Everyone was doing their <u>own job</u> and they didn't compare with the others (participant #19).

Upper-Intermediate Level

> <u>Many people</u> get married who come from <u>different countries</u>. They meet each other in a <u>touristic place</u> or during a travel. After that, they going out together a couple of month and they love each other. Finally, they decide to marrying. On the surface, that seem very lovely but this marriage is not very easy. Marrying someone of different nationality contains some disadvantages for <u>several reasons</u>. Firstly, they come from different countries and their cultures are very different (participant #10).

Low-Advanced Level

> Big countries firstly focus on education system. Because education is the easiest way for one who wants to change a person's or a country's future. America, for example, went to India with a goal of taking people as workers and *changed the education system* in bad way so as to make people not well educated. It worked though. People were uneducated and they were easy to be catched by American companies to be used for their physical features. People who don't want to work like slaves closed themselves in their houses and had lots of time on computers (participant #8).

Discussion and Conclusion

The current study is an investigation of the frequency and development of FSs such as adjective+noun and verb+noun collocations across different proficiency levels. Argumentative essays written by 25 intermediate, 25 upper-intermediate, and 25 low advanced EFL learners at the end of a 14-week intensive program were analyzed for the use of such collocations. The first research question explored in the study was related to the usage rate of collocations by each proficiency group. The findings demonstrated that the intermediate level learners used the collocations at the lowest rate whereas the low-advanced level learners used them at the highest rate. The second research question dealt with whether there would be a significant improvement in the use of adjective+noun and verb+noun collocations by EFL learners at different proficiency levels over time. The results showed a significant difference among the proficiency groups regarding adjective+noun collocations only, supporting Siyanova-Chanturia's (2015) results, which suggested that as learners became more proficient, they improved in the use of collocations. The finding also corroborates that of Huang (2001) who compared beginner and advanced level Chinese students regarding the frequency with which they used lexical bundles in their essays in English. One of the most important inferences that can be derived from the present study is that knowledge with respect to adjective+noun collocations can significantly improve in an intensive English language program over the course of a semester. Similarities between Turkish and English regarding the order of attributive adjectives and nouns may have also contributed to the correct usage of adjective+noun collocations by EFL learners. The results also suggested that as soon as learners start learning a language, they start paying attention to how words are used together rather than to single words (Siyanova-Chanturia, 2015). As Wray (2002, p.212) stated:

> the consequence [of focusing on word-sized units in L2 learning] is a failure to value the one property of nativelike input which is most characteristic of the idiomaticity to which the learner ultimately aspires: words do not go together, having first been apart, but, rather, belong together, and do not necessarily need separating.

As far as the use of verb+noun collocations are concerned, significant differences were not found among the proficiency groups although the mean scores increased as the learners' proficiency levels increased. This may be attributed to the fact that there is not much difference between the intermediate and upper-intermediate as well as between upper-intermediate and low-advanced level learners with regard to their English language proficiencies, which may have led the learners to use the collocations at a similar rate. Another possible explanation might be that verb+noun collocations in Turkish, on the other hand, are not always used the same way in English. The underlying word order in Turkish is SOV but there are five other variations of word order that are frequently used in Turkish. This may have led the students to use verb+noun collocations inaccurately in their essays. Apart from this, it is common among Turkish learners of English to substitute *do* for *make* and visa versa in their speech and writing due to the fact that in Turkish

there is only one verb *yapmak* 'to do'. Such linguistic behavior may have also resulted in the incorrect usage of verb+noun collocations. For instance, in an analysis of errors made by Turkish ESL learners enrolled in an immersion program at a government university in the US, Koban (2011) found that the learners used verb+noun collocations including 'do' and 'make' incorrectly in their essays.

Regarding the pedagogical implications, the findings of the present study suggest the importance of usage-based approaches in acquiring a language (e.g. Bybee, 2007; Tomasello, 2000, 2003), which focus on frequency of input. Explicit teaching of collocations that ocur more frequently than the others may enable learners to gain fluency, as stated in previous studies (Pawley and Syder, 1983). While focusing on frequency, however, teachers should also make sure that they take the learners' needs into consideration. Additionally, collocations can be acquired much more efficiently if they are acquired as a whole rather than single words. As Henriksen (2013) stated, many language teachers do not have sufficient materials to draw learners' attention to collocations and therefore, learners may be unaware of how certain words co-occur with other words. Further, a learner's first language may negatively influence the second language. The order in which lexical items occur in collocations may be different across languages and this may lead learners to use collocations inaccurately. Comparing and contrasting languages with one another in terms of their Word orders can raise learners' awareness and enable them to use collocations accurately.

Further Research

There are several limitations to this study that need to be mentioned. One limitation has to do with the proficiency levels of the students, which were very close to one another. Further studies can include e.g. a beginner level and compare it with intermediate and advanced levels. Significant differences among proficiency levels may be obtained if the levels are apart from one another. Another limitation has to do with the instrument, which was argumentative essays only. Future research can analyze different types of essays. Future research may also extend the analysis to investigate the extent to which collocations or other types of FSs contribute to the quality of essays written by ESL or EFL learners across different proficiency groups. This would also involve examining mutual information (MI) for each collocation, that is how strongly related the words are and their possibility of occurrence with each other. Such analyses would provide clearer results with regard to the differences among the proficiency groups.

References

Bağcı, N. D. (2014). Turkish university level EFL learners' collocational knowledge at receptive and productive levels. [Master's thesis, Middle East Technical University].

Bahns, J. (1993). Lexical collocations: A contrastive view. ELT Journal, 47(1), 56-63.

Benson, M., Benson, E. & Ilson, R. (1997). The BBI dictionary of English word combinations (Revised edition). John Benjamins Publishing Company.

Biber, D. & Barbieri, F. (2007). Lexical bundles in university spoken and written registers. English for Specific Purposes, 26(3), 263-286.

Bybee, J. (2007). Frequency of use and the organization of language. Oxford University Press.

Clear, J. (1993). Tools for the study of collocation. In M. Baker, G. Francis, & E. Tognini-Bonelli (Eds.), Text and technology: In Honour of John Sinclair (pp. 271- 292). John Benjamins Publishing Company.

Conklin, K., & Schmitt, N. (2008). Formulaic sequences: Are they processed more quickly than nonformulaic language by native and non-native speakers? Applied Linguistics, 29, 72–89.

Crossley, S. A., & Salsbury, T. (2011). The development of lexical bundle accuracy and production in English second language speakers. International Review of Applied Linguistics in Teaching, 49, 1-26

Erman, B. & Warren, B. (2000). The idiom principle and the open-choice principle. Text, 20, 29–62.

Fan, M. (2009). An exploratory study of collocational use by ESL students: A task-based approach. System, 37(1), 110–123. https://doi.org/10.1016/j.system.2008.06.004

Firth, J. R. (1957). Papers in Linguistics, 1934-1951. Oxford University Press.

Gitsaki, C. (1996). The development of ESL collocational knowledge. [Doctoral dissertation, The University of Queensland]. UQ eSpace.

Göksel, A. & Kerslake, C. (2006). Turkish: A comprehensive grammar. Routledge.

Halliday, M. A. K. (1966). Lexis as a linguistic level. In J. C. Catford, C. E. Bazell, M.

Halliday, M. A. K and R. H. Robins (Eds.), In memory of J. R. Firth (pp. 148-162). Longman.

Halliday, M. A. K. & Hassan, R. (1976). Cohesion in English. Longman.

Hausmann, F. J. (1985). Kollokationen im deutschen Wörterbuch. Ein Beitrag zur Theorie des lexikographischen Beispiels. In Henning, B. and J. Mugdan (Eds.), Lexikographie und Grammatik. Akten des Essener Kolloquiums zur Grammatik im Wörterbuch. (= Lexikographica, Series Maior 3). (pp. 118-129). Niemeyer.

Henriksen, B. (2013). Research on L2 learners' collocational competence and development: A progress report. In C. Bardel, C. Lindqvist, & B. Laufer (Eds.), L vocabulary acquisition, knowledge and use: New perspectives on assessment and corpus analysis (pp. 29e56). Amsterdam: Eurosla

Hill, J. (2000). Revising priorities: from grammatical failure to collocational success. In M. Lewis (Ed.), Teaching collocation: Further developments in the lexical approach (pp. 47-69). Heinle, Cengage Learning.

Huang, L. (2001). Knowledge of English collocations: An analysis of Taiwanese EFL learners. Texas papers in foreign language education: Selected proceedings from the Texas foreign language education conference, 6(1), 113-129.

Kjellmer, G. (1987). Aspects of English collocations. In Meijs, W. (ed.), Corpus linguistics and beyond (pp. 133–140). Rodopi.

Koban, D. (2011). A Case Study of Turkish ESL Learners at LaGuardia Community College, City University of New York, NYC: Error Analysis. International Proceedings of Economics, Development and Research: Languages, Literature and Linguistics, 26, 168-172.

Laufer, B., & Waldman, T. (2011). Verb-noun collocations in second language writing: a corpus analysis of learners' English. Language Learning, 61, 647-672.

Millar, N. (2011). The processing of malformed formulaic language. Applied Linguistics, 32(2), 129–148. https://doi.org/10.1093/applin/amq035

Nattinger, J. (1988). Some current trends in vocabulary teaching. In R. Carter & M.

McCarthy (Eds.), Vocabulary and language teaching (pp. 62-82). Longman.

Nesselhauf, N. (2003). The use of collocations by advanced learners of English and some implications for teaching. Applied Linguistics, 24(2), 223-242

Nesselhauf, N. (2005). Collocations in a learner corpus. John Benjamins Publishing Company.

Qi, Y. & Ding, Y. (2011). Use of formulaic sequences in monologues of Chinese EFL learners. System, 39, 164-174.

Schmitt, N. & Carter, R. (2004). Formulaic sequences in action: An introduction. In N.

Schmitt (Ed.), Formulaic sequences: Acquisition, processing, and use (pp. 1–22). John Benjamins.

Sinclair, J. M. (1991). Corpus, concordance, collocation: Describing English language. Oxford University Press.

Siyanova, A., & Schmitt, N. (2008). L2 learner production and processing of collocation: a multi-study perspective. Canadian Modern Language Review, 64(3), 429-458.

Siyanova Chanturia, A. (2015). Collocation in beginner learner writing: A longitudinal study. System, 53, 148-160. https://doi.org/10.1016/j.system.2015.07.003

Tomasello, M. (2000). The item-based nature of children's early syntactic development. Trends in Cognitive Sciences 4, 156–163.

Tomasello, M. (2003). Constructing a language: A usage-based theory of language acquisition. Harvard University.

Underwood, G., N. Schmitt, & A. Galpin. (2004). The eyes have it: An eye-movement study into the processing of formulaic sequences. In N. Schmitt (ed.), Formulaic sequences (pp. 155–72). John Benjamins.

Warren, H. (ed.). 1994. Oxford learner's dictionary of English idioms. Oxford University Press.

Wray, A. (2002). Formulaic sequences in second language teaching: Principle and practice. Applied Linguistics, 21, 463-489.

Zwitserlood, P. (1994). The role of semantic transparency in the processing and representation of Dutch compounds. Language & Cognitive Processes, 9(2), 341–368.