

## **A corpus-aided discovery learning (CADL) approach to teaching *collocations* in TEFL settings**

**Dr Wesam M. A. Ibrahim\* Dr Amany A. Alsabbagh \*\***

**\* Associate Professor of Linguistics**

**Department of Foreign Languages, Faculty of Education, Tanta  
University, Egypt**

**Department of Basic Sciences, Community College, Princess Nourah  
bint Abdulrahman University, Saudi Arabia**

**\*\* TEFL Associate Professor, Head of English Language and  
Computer Science Department, Police Science Academy,  
Sharjah, UAE**

### **Abstract:**

Despite the progress made in the field of corpus linguistics, the use of corpora is relatively scarce in language pedagogy (Krieger, 2003). However, the effectiveness of using corpus-based activities in teaching English has been supported by researchers (Vannestal and Lindquist, 2007). This paper discusses the potential of using a corpus-aided discovery learning (CADL) approach in TEFL settings, particularly in teaching collocations (i.e. habitual cooccurrences of lexical items). There is consensus that the study of collocations is vital for developing language skills and fostering fluency and accuracy (e.g. Biber et al., 1999; McEnery & Wilson, 2001; McAlpine & Myles, 2003) since competence in a language undoubtedly involves collocational knowledge (Herbst, 1996: 389). Evidently, learners' knowledge of collocations is quite important (Kita and Ogata, 1997: 230) and is needed for effective sentence generation (Smadja and McKeown, 1990) and avoidance of errors (McAlpine and Myles, 2003: 75). In this paper, we argue that using a CADL approach and involving learners in corpus-based activities in the study of collocations would extend their lexicon. To support this argument, the researchers initiated an experiment applying a CADL approach to the teaching of vocabulary, particularly

collocations, in the Faculty of Education, Tanta University, Egypt. 20 third-year students were introduced to the BNC<sup>1</sup> web and were given a hands-on session on how to use the BNC. Then, learners were asked to look at the concordances of the most frequent 10 nouns in the BNC, namely: 'time', 'people', 'way', 'years', 'year', 'work', 'government', 'day', 'man', and 'world'; to decide which adjectives most frequently occur with these nouns; to extract collocates for each noun; and to discuss their findings with their colleagues. This is followed by a number of exercises in which students use the collocates they have found. The aim of the study, or as Chambers (2007) and Mukherjee (2004) call it 'task', is to 'popularise' the work with corpus data in TEFL settings. Hence, language learners would not rely solely on the teacher but would deal with corpora on their own under the teacher's guidance and find out about language patterning and the behaviour of words and phrases in an 'autonomous' way (Bernardini, 2002: 165).

### **Keywords**

Corpus Linguistics, Collocation, Vocabulary teaching, corpus-aided discovery learning (CADL)

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<sup>1</sup>The British National Corpus (BNC) was originally created by Oxford University press in the 1980s - early 1990s, and it contains 100 million words of text texts from a wide range of genres (e.g. spoken, fiction, magazines, newspapers, and academic).

<https://www.english-corpora.org/bnc/>

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**استخدام التعلم الاستكشافي المدعوم بالمخزونات اللغوية في تدريس المتلازمات  
اللفظية في نطاق تدريس اللغة الانجليزية كلغة أجنبية  
الملخص باللغة العربية:**

يعد استخدام المخزونات اللغوية في تدريس اللغات أمراً نادراً رغم التقدم الكبير الذي احرزه علم المخزونات اللغوية. ومع هذا، فإن كثير من الباحثين أكدوا علي فاعلية استخدام أنشطة تعتمد علي المخزونات اللغوية في تدريس اللغة الانجليزية. ناقش في هذا البحث امكانية استخدام التعلم الاستكشافي المدعوم بعلم المخزونات اللغوية في نطاق تدريس اللغة الانجليزية كلغة أجنبية وخاصة في تدريس المتلازمات اللفظية. تقوم المخزونات اللغوية بجلب اللغة الانجليزية الواقعية الي الفصل الدراسي وفي نفس الوقت تدعم التعلم المستقل. يوجد إتفاق بين العلماء علي أهمية دراسة المتلازمات اللفظية في تطوير مهارات اللغة وإثراء الطلاقة والدقة اللغوية. يحتاج الطلاب أن يتعلمون المتلازمات اللفظية لانتاج جمل سليمة وأكثر فعالية وأيضاً لتجنب الأخطاء. في هذا البحث، نحاول أن نثبت أن استخدام التعلم الاستكشافي المدعوم بعلم المخزونات اللغوية عن طريق دمج الطلاب في أنشطة تعتمد علي المخزونات اللغوية سوف يؤدي الي زيادة ثروتهم اللغوية من المفردات. ولهذا قمنا بتطبيق هذا الاتجاه في التعلم علي ٢٠ طالب في الفرقة الثالثة بقسم اللغة الانجليزية في كلية التربية- جامعة طنطا. وبالفعل مع نهاية الفصل الدراسي اندمج الطلاب في الأنشطة واكتسبوا العديد من المتلازمات اللفظية ومن ثم تم اثراء مفرداتهم اللغوية.

**الكلمات المفتاحية:**

علم المخزونات اللغوية، المتلازمات اللفظية، تدريس المفردات، التعلم الاستكشافي المدعوم بالمخزونات اللغوية.

## 1. Introduction

Corpora can have a huge impact on language teaching due to its ability to present statistically proven evidence of language use. Hence, there is a growing tendency to incorporate corpora in language teaching (Johansson, 2009; Leńko-Szymańska, 2014). From this perspective, this paper explores the potential of using corpus-based activities in TEFL settings, particularly in the study of English vocabulary (Johns, 1991a; Leech, 1997; Carter, 1998). Indeed, the ultimate aim of this paper is to highlight the pedagogical usefulness of corpora for vocabulary teaching and learning, and for developing in students some basic lifelong learning skills (European Framework for Key Competences 2018<sup>2</sup>).

### *Corpus Linguistics*

A corpus can be defined as a large collection of machine-readable, authentic written and/or spoken texts that acts as a representative sample of a particular language or variety of language (McEnery, Xiao and Tono, 2006). Corpus linguistics, considered as a 'new enterprise' or way of thinking about language, can be used as a tool to carry out empirical studies on language. It provides a perspective on natural occurring language that sets it apart from intuition-based approaches which rely on the overt judgement of an individual about the language (Leech, 1992; Conrad, 2000; Teubert, 2005).

In recent years, Corpus Linguistics has begun to play a chief role in various areas such as discourse analysis (Ibrahim, 2014b; Krishnamurthy, 1996; Teubert, 2007), translation studies (Bassnett, 2002; Laviosa, 2002), sociolinguistics (Baker, 2010) and stylistics (Ibrahim, 2013, 2014a; Semino and Short, 2004; Wynne, 2005). Corpora provides researchers an access to 'real world' texts and corpus-based analysis which facilitates naturalistic linguistic

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<sup>2</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52018SC0014&from=EN>

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investigation. Corpus analysis software and machine-readable corpora make it possible for researchers to investigate huge amounts of data at a significantly lesser time with the highest degree of accuracy.

The term ‘corpus’, which is originally a Latin word meaning ‘a body’, is a collection of texts (a ‘body’ of language) stored in an electronic database. Corpus Linguistics is mainly concerned with studying how language (spoken or written or both) is used in natural occurring settings such as everyday conversations, newspapers, online communications, spontaneous telephone conversations ... etc (Adolphs and Lin, 2011: 597). It is the study of language based on examples of authentic language use, collected, stored and processed via a computer. It can be defined as "a collection of texts assumed to be representative of a given language, dialect, or other subset of a language" (Francis, 1982: 7); “an unexciting phenomenon, a helluva lot of text, stored on a computer” (Leech, 1992); “a collection of naturally-occurring language text, chosen to characterize a state or a variety of language” (Sinclair, 1991); a finite-sized body of machine-readable text, sampled in order to be maximally representative of the language variety under consideration’ (McEnery and Wilson, 2001: 32); “a collection of pieces of language text in electronic form, selected according to external criteria to represent, as far as possible, a language or language variety as a source of data for linguistic research” (Sinclair, 2004); and as “large bodies of machine-readable text containing thousands or millions of words” (Baker *et al.*, 2006: 48).

Linguists tend to use a number of software packages in corpus analysis such as Mike Scott’s *Wordsmith Tools 5* (Scott, 2008). These software packages offer corpus analysts a wide variety of functions and enable them to investigate corpora in a more reliable way. Hunston (2002: 3) observes that ‘a corpus does not contain new information about language, but the software offers us a new perspective on the familiar.’ These software

packages, which are based on the premise that corpora are sets of machine-readable texts which can be searched quickly, offer various facilities e.g. keywords, concordances, frequency lists, and collocations. This study is mainly interested in the notion of collocation.

Collocation is a highly significant technique that is used widely in corpus analysis. J. R. Firth (1957), one of the pioneers in the field of Linguistics, was the first to explore the notion of collocation, arguing that '[y]ou shall know a word by the company it keeps' (Firth, 1957: 179), and thus inspiring corpus linguists to use this phenomenon in its full sense (McEnery & Wilson, 2001: 23-24). Furthermore, Firth (1957: 14) suggested that pairs of words are considered collocates when they show a strong mutual attraction. Sinclair (1987c) and Stubbs (1996) suggested that all lexical items have collocations. That is why Sinclair (1987b) suggested that collocates are 'words which co-occur significantly with headwords.' For example, among the verbs which may accompany the noun 'kiss' would be *want, return, steal, or give*. The notion of collocation was employed in designing learner dictionaries such as *COBUILD* (Sinclair, 1987a) and the *Oxford Collocations Dictionary*. Strictly speaking, there are two major factors which should be taken into account when addressing collocates in order to distinguish between chance pairings and significant collocates: (1) the circumstances under which co-occurring items are attracted and hence, they are said to be collocates, and (2) the quantitative techniques (statistical techniques) which measure the strength of attraction between collocates.

### ***Corpus Linguistics and Language Pedagogy***

The use of a corpus-based approach in language pedagogy is particularly interesting for the purposes of this paper. It should be noted that the use of corpus-based activities in pedagogical settings has gained prominence since the mid-1980s because corpus analysis can be illuminating 'in virtually all branches of linguistics

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or language learning' (Leech, 1997: 9; Biber, Conrad & Reppen, 1998: 11).

The upsurge of interest in applying the findings of corpus-based research to language pedagogy is evidenced in the amount of scholarly work and publications on the topic of teaching and language corpora. Examples include Wichmann, Fligelstone, McEnery and Knowles (1997), Partington (1998), Bernardini (2000), Burnard and McEnery (2000), Aston (2001), Ghadessy, Henry and Roseberry (2001), Granger, Hung and Petch-Tyson (2002), Hunston (2002), Kettemann and Marko (2002, 2006), Sinclair (2003, 2004), Aston, Bernardini and Stewart (2004), Mishan (2005), Nesselhauf (2005), Römer (2005), Braun, Kohn and Mukherjee (2006), Gavioli (2006), Scott and Tribble (2006), Hidalgo, O'Keeffe, McCarthy and Carter (2007), Quereda and Santana (2007), Aijmer (2009) and Campoy, Gea-valor and Belles-Fortuno (2010).

The interest of corpus linguists in the applications of corpus-based research in the English language classroom (Burnard and McEnery, 2000; Aston, 2001) has led to the initiation of the COBUILD project (and consequently, the production of a new generation of learner dictionaries) (Sinclair, 1987a), and the early coinage of the notion of 'data-driven learning' (Johns, 1991a). However, one must admit that the influence of applying corpus-linguistic research on English language teaching is still relatively rare and unexploited since 'not many teachers seem to be *using* corpora in their classrooms' (Tribble, 2000: 31).

The computer-assisted corpus-based analysis of data, especially by means of extracting wordlists, frequencies, keywords, collocations and concordances offered by corpus-linguistic software packages such as *WordSmith Tools* (Scott, 2008) opens up entirely new perspectives for linguistic analysis: '[t]he corpus is stored in such a way that it can be analysed non-linearly, and both quantitatively and qualitatively' (Hunston, 2002: 2). The use of corpus-based approaches in TEFL settings has the potential for two

major effects upon the professional life of teachers of English language:

Firstly, corpora lead to new descriptions of a language, so that the content of what the language teacher is teaching is perceived to change in radical ways [...]. Secondly, corpora themselves can be exploited to produce language teaching materials, and can form the basis for new approaches to syllabus design and to methodology. (Hunston, 2002: 137)

## **2. The Contribution of Corpus Linguistics to Language Pedagogy**

Corpus linguistics is considered to be an approach to the study of language rather than a branch of linguistics (Gries, 2009). The approach, which focuses on the analysis of authentic samples of language use, has an impact on language teaching, particularly in syllabus design, teaching materials (dictionaries and books) and classroom activities (Krieger, 2003). With regard to classroom activities, its use is not widespread in EFL classes and tends to be mainly confined to a very small number of university teachers. This paper presents a corpus-based task which exploits corpora for vocabulary teaching and learning. It aims to discuss the potential of corpus work in the learning of English vocabulary as well as in the development of some of the key life-long learning skills. The corpus-based approach to learning promotes the development of some basic skills for lifelong learning (European Framework for Key Competences, 2018) by encouraging students to be active learners in the classroom and to apply their critical thinking to the study of vocabulary. In this sense, the corpus-based approach to learning vocabulary dedicates a special emphasis to two key aspects: autonomous learning (students' ability to learn independently) and the study of authentic language use (which enhances the ability and the skill to communicate in English). In

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addition, it introduces new technologies in the classroom (thus, enhancing the students' digital competence), which matches the 21<sup>st</sup> century spirit of digital empowerment.

The use of corpora in language teaching has many benefits including the following:

- providing learners with more accurate descriptions of language than those based on intuitions
- exposing learners to contextualized, meaningful language in 'real' usages
- providing learners with examples of specific registers/genres of language
- exposing learners to non-textbook language patterns
- giving learners access to a much larger language sample than classes can normally provide

Corpora can be used in teaching vocabulary (word meanings in context, combinations/collocations, parts of speech, common expressions, differences in meaning), grammar (differences between similar forms, how forms are used in context), pragmatics (greetings, genre features and their cultural meanings - e.g. job letters, CVs, personal letters, etc.). An example of these studies can be seen in Tsui (2005). Amy Tsui used a corpus compiled from TeleNex website 1993-2005 to support ESL teachers in Hong Kong. She dealt with lots of questions about commonly confused words, use of sentence connectives, count vs non-count nouns, number agreement, etc. Examples include: *big vs large*, *finally vs lastly*, and *less than vs fewer than*. She argued that accurate information about usage can be obtained from corpus data.

Acquisition of language and linguistic competence as well as language learning awareness can best be realised through tasks which encourage learners not to focus explicitly on the structure

and the rules of the new language. Learners will acquire the form of the foreign language because they are engaged in exploring aspects of the target language on the basis of authentic content. They are involved in learner-centred activities and are motivated to exploit tools rather than ready-made learning materials. This kind of learning, which may be dubbed data-driven learning or task-based learning, involves the use of new technology to enhance language learning, the focus on real tasks and activities, and the exploitation of authentic materials. The exploitation of corpus methods in data-driven learning or task-based learning has given rise to what is known as corpus-aided discovery learning (CADL). The CADL approach entails encouraging learners to take the role of language researchers by systematically engaging in discovery learning (Gavioli, 2000) and in learning how to learn through observations, analyses, interpretations, and presentations of language-use patterns in corpus data.

### **Corpus-Aided Discovery Learning (CADL)**

Educators have advocated a variety of active learning approaches believing that these approaches encourage learners to be more autonomous, to discover for themselves, and to be more engaged in the educational process which would eventually have an impact on achieving the intended learning outcomes (ILOs). Examples of these active learning approaches include problem-based, inquiry-based, experiential, and discovery learning. These approaches agree on using group work, hands-on experience, and social interaction to enhance students' ability to discover new concepts on their own. However, there is a debate as to the amount of guidance students need to support their efficacy, especially for novice learners (e.g., Kirschner, Sweller, and Clark, 2006). Many educators believe that effective learning requires teachers' guidance and intervention to ensure that students are kept on the task with a clear focus on the learning objectives. Hence, active learning approaches are more supported by educators when they provide an

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active role for the teacher and an opportunity to intervene (Mayer, 2004). From this perspective, teachers and students share responsibility for the efficacy of the learning process and the achievement of the ILOs.

Corpus-aided discovery learning makes the most of corpora as learning aids. This approach is associated with Tim Johns and with his work on data-driven learning (DDL) (Johns, 1991b). Indeed, “the hands-on use of authentic corpus data [...] for inductive, self-directed language learning [...] empowering learners to explore language corpora and come to their own conclusions (Boulton, 2011: 571). Bernardini (2004a) argues that inductive learning from corpora is more effective than explicit instruction for the acquisition of specific language structures. She also emphasized, through the *Learner as Traveler* metaphor, the importance of focusing on the learning experience itself: the learner is a traveler and the focus should be on the learning experience, the voyage, rather than its destination. When guided by the teacher, corpus-aided discovery learning (CADL) in Teaching English as a Foreign Language (TEFL) settings would involve students in active learning, since this approach requires teachers to guide students in their endeavour to conduct research, discover, and reflect on various aspects of English.

This approach appears to be potentially well-suited for TEFL learners for the following reasons (Bernardini, 2016; Flowerdew, 2015). First, it is learner-centered and autonomy-promoting, which is quite valuable in TEFL context particularly for learners at advanced levels (Nunan, 1988). CADL is “fully adaptable to the learner’s individual needs and preferences [,] where the learner has an ability to select from an unrestrictive range of responses, or even to come up with responses not envisaged by the teacher” (Leech, 1997: 11-12). Second, CADL is an inductive process which is meant to favour the noticing of patterns (Schmidt, 2010), including collocational patternings (Sinclair, 1996), and to demonstrate the effect of context of

situation and context of culture on such patternings (Halliday and Mathiessen, 2014). Third, CADL is a form of communicative learning whereby knowledge is “co-constructed through collaborative dialogue and negotiation with guidance and support mediated by the teacher or student” (Flowerdew, 2015: 19). It is proposed by many academics that the CADL approach could indeed contribute to the development of various competences that would enhance students' capacity for lifelong learning including: thematic competence (learning to search for information), technological competence (learning to use electronic software) and information mining competence (developing strategies for extracting terminology and phraseology, evaluating sources, etc.) (EMT Expert Group, 2017; Bernardini, 2016).

### **3. Methodology**

This study seeks to answer the following research question:

Would the use of corpus-aided discovery learning activities have an impact on extending the scope of students' vocabulary?

#### ***Participants***

This study, an experiment involving corpus-aided discovery learning, was conducted on 20 third-year students in the Department of Foreign Languages (English Programme), Faculty of Education, Tanta University. The participants were enrolled in a course entitled 'Introduction to Linguistics', taught by the first author. The number of students enrolled for this course was about 300 students. Students were informed of the nature of the experiment and how computer software would be used as a tool to explore language patterns. Students were excited about using new methods in learning English vocabulary and were really eager to improve their English language. More than 120 students

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volunteered for the experiment. 20 students were randomly selected from the volunteers. The group included 12 females and 8 males between 20 and 22 years old. All students have, on average, an intermediate English proficiency level, based on a paper-based placement test. The research was conducted in the first semester of the academic year 2018-2019.

### ***Instruments***

The tools which were administered to collect relevant data for this study include pre- and post- vocabulary tests. The researchers developed two equivalent forms of vocabulary tests (fill-in-the-gap activity); one was used as a pre-test and the other as a post-test. The activity included ten questions, as seen in Table 1. The participants were provided with 10 nouns (the most frequent nouns in the BNC) and were asked to fill in each blank with one or more adjectives.

- |                     |                 |
|---------------------|-----------------|
| 1. ----- time       | 2. ----- people |
| 3. ----- way        | 4. ----- years  |
| 5. ----- year       | 6. ----- work   |
| 7. ----- government | 8. ----- day    |
| 9. ----- man        | 10. ----- world |

**Table 1 Pre- and post- tests: Fill-in-the-gap activity**

### ***Validation of study instruments***

To verify validity and reliability of the pre- and post-tests, they were piloted on the control group ( $N=20$ ). Statistical analyses of Pearson Correlation coefficients rendered high equivalent

reliability values of 0.91. As for inter-rater reliability, two raters reached an agreement level as high as 0.98% on students' scores.

### ***Procedures of the Study***

The procedures of the study were as follows:

1. The 20 participants were asked to take part in a 'fill-in-the-gap' activity in which they would provide the adjectives which (they think) tend to come with the following nouns (the most frequent 10 nouns in the BNC): 'time', 'people', 'way', 'years', 'year', 'work', 'government', 'day', 'man', and 'world'. (Pre-test)
2. The 20 participants were divided into groups of four.
3. Each group was equipped with a computer desktop with an Internet connection to work on the online corpus, the BNC.
4. The participants were introduced to the BNC web and were given a hands-on session on how to use the BNC.
5. They were asked to extract the most frequent 10 nouns in the BNC.
6. They were asked to look at the concordances of each noun.
7. They were asked to decide if there were certain adjectives which tend to occur more frequently with each noun, through examining the concordances.
8. They were introduced to the concept of collocation.
9. They were trained on how to extract collocates from the BNC.
10. Each student was asked to take part in a fill-in-the-gap activity which requires him/her to insert 5 possible collocates for each noun. (Post-test)
11. This is followed by a number of exercises.

### ***Data Analysis***

The paired samples *T*-test<sup>3</sup> was used to identify the difference between the score of the student groups in pre- and post-

<sup>3</sup> You can compare the means of two groups with a two-sample t-test. If you have two groups with paired observations (e.g., before and after

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tests (i.e., a fill-in-the-gap activity which was conducted before and after the task). The results reveal the effect of using CADL on extending the participants' scope of vocabulary, where the significance threshold was set at 0.01. Descriptive statistics were performed to provide an overview about the students' scores in the pre- and post-tests. Relevant data to the effect of using CADL are provided in the table below.

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measurements), use the paired t-test. Each type of t-test uses a specific procedure to boil all of your sample data down to one value, the t-value. The calculations behind t-values compare your sample mean(s) to the null hypothesis and incorporates both the sample size and the variability in the data. A specific t-distribution is defined by its degrees of freedom (DF), a value closely related to sample size. Therefore, different t-distributions exist for every sample size.

<https://blog.minitab.com/blog/adventures-in-statistics-2/understanding-t-tests-t-values-and-t-distributions>

Calculating a t-test requires three key data values. They include the difference between the mean values from each data set (called the mean difference), the standard deviation of each group, and the number of data values of each group. The t-test produces two values as its output: t-value and degrees of freedom. The t-value is a ratio of the difference between the mean of the two sample sets and the variation that exists within the sample sets. While the numerator value (the difference between the mean of the two sample sets) is straightforward to calculate, the denominator (the variation that exists within the sample sets) can become a bit complicated depending upon the type of data values involved. The denominator of the ratio is a measurement of the dispersion or variability. Higher values of the t-value, also called t-score, indicate that a large difference exists between the two sample sets. The smaller the t-value, the more similarity exists between the two sample sets. A large t-score indicates that the groups are different. A small t-score indicates that the groups are similar.

<https://www.investopedia.com/terms/t/t-test.asp>

Test	<i>N</i>	<i>M</i>	<i>SD</i>	<i>df</i>	<i>t</i>	<i>Sig.</i>
<i>Pre</i>	20	12.4	2.7	35	35.215	0.000
<i>Post</i>	20	28.7	1.2			

Table 2 T-test value for the pre- and post- tests for the Treatment Group

As Table 2 shows, the mean scores were 12.4 and 28.7, the standard deviations were 2.7 and 1.2 for the pre- and post- tests, respectively, with  $df = 35$ ,  $t = 35.215$ , and  $p < 0.01$ . In other words, results of the  $t$ -test for paired samples verify the significant effect of using corpus-based activities on extending the scope of students' vocabulary.

#### 4. Discussion

The participants' answers for the 'fill-in-the-gap' pre-test are shown in Tables 3 and 4 below.

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	time	people	way	years	year
S1	great	great	best	past	new
S2	great	good	effective	recent	last
S3	swift	nosey	easy	running	final
S4	good	bad	easy	long	final
S5	good	good	long	long	long
S6	good	good	short	previous	beautiful
S7	short	rich	best	few	24
S8	busy	famous	organized	sixty	new
S9	good	poor	right	long	Leap
S10	nice	poor	best	few	last
S11	hard	great	best	few	new
S12	hard	evil	best	twenty	previous
S13	good	good	easy	few	last
S14	bad	famous	short	Ten	new
S15	good	good	best	few	new
S16	hard	great	best	happy	New
S17	great	rich	effective	long	new
S18	bad	rich	best	few	last
S19	short	rich	best	three	new
S20	busy	poor	best	long	last

**Table 3 The students' pre-test answers for the most frequent nouns in the BNC 1-5**

	work	government	day	man	world
S1	good	good	long	tall	modern
S2	hard	new	good	handsome	modern
S3	hard	powerful	hot	handsome	developing
S4	hard	democratic	good	strong	small
S5	hard	powerful	long	old	new
S6	hard	new	Bad	old	modern
S7	much	fantastic	hot	smart	small
S8	hard	democratic	bad	old	universal
S9	hard	strong	hot	good	whole
S10	hard	powerful	long	handsome	whole
S11	good	good	happy	great	whole
S12	creative	democratic	bad	handsome	wonderful
S13	hard	democratic	hot	tall	modern
S14	hard	powerful	long	old	third
S15	hard	strong	hot	big	whole
S16	social	strong	hot	handsome	third
S17	hard	powerful	hot	strong	modern
S18	hard	strong	long	strong	whole
S19	hard	powerful	long	handsome	modern
S20	hard	democratic	special	strong	whole

**Table 4 The students' pre-test answers for the most frequent nouns in the BNC 6-10**

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We notice the students' tendency to use the same adjectives with the nouns such as 'good', 'great' and 'hard' with *time*; 'good', 'great', 'poor' and 'rich' with *people*; 'best' and 'easy' with *way*; 'few' and 'long' with *years*; 'last' and 'new' with *year*; 'hard' with *work*; 'democratic', 'powerful' and 'strong' with *government*; 'hot' and 'long' with *day*; 'handsome', 'old' and 'strong' with *man*; 'whole' and 'modern' with *world*. This may be taken as indicative of the limited set of adjectives the participants use in the company of these nouns.

After being introduced to the BNC, participants were required to extract the most frequent nouns in the BNC. The frequencies of the most frequent nouns in the BNC are as follows: 'time' (152502 hits), 'people' (121591 hits), 'way' (95701 hits), 'years' (88571 hits), 'year' (73013 hits), 'work' (89319 hits), 'government' (61798 hits), 'day' (60039 hits), 'man' (58748 hits), and 'world' (57447 hits). Due to the large number of hits for each noun, we thinned the results to 100 concordances, i.e. reduced the number of results that are displayed through random selection. Then, participants were provided with the random selection of 100 concordances for each noun and asked to examine them and identify the adjectives that occur with each noun. The participants could identify the adjectives preceding each of the 10 nouns. They were required to answer the following question:

What are the adjectives that tend to come (occur frequently) with the selected nouns after investigating the concordances? Give 5 adjectives!

It should be noted that participants' answers were identical, as shown in Table 5 below, since they were provided with a printout of the same random collection of concordances.

	Noun	Adjectives– after investigating the concordances
1	Time	same – first – long – last – short
2	People	young – older – disabled –local – homeless
3	Way	same – long – best – only – easiest
4	Years	two – five – ten – recent – past
5	Year	last – next – earlier – previous – following
6	Work	hard – social – part-time – pioneering – recent
7	Government	local– central– conservative– British –national
8	Day	next – following – same – first – previous
9	Man	young – old – tall – big –poor – handsome
10	World	third – second – real – first – modern

**Table 5** The students' extraction of the adjectives collocating with the most frequent 10 nouns in the BNC from a random selection of concordances

Participants were instructed on how to use the Collocate function on the BNC and were asked to use it for each noun, as shown in Figures 1-10 below.

HELP	?		FREQ	ALL	%	MI
1	<input type="checkbox"/>	SAME	7983	60404	13.22	3.40
2	<input type="checkbox"/>	SPENT	1883	11310	16.65	3.73
3	<input type="checkbox"/>	SPEND	1552	7220	21.50	4.10
4	<input type="checkbox"/>	WASTE	884	6591	13.41	3.42
5	<input type="checkbox"/>	SPARE	508	2838	17.90	3.83
6	<input type="checkbox"/>	WASTING	378	718	52.65	5.39
7	<input type="checkbox"/>	TURNOVER	346	2873	12.04	3.26
8	<input type="checkbox"/>	WASTED	315	1311	24.03	4.26
9	<input type="checkbox"/>	SPENDS	211	736	28.67	4.51
10	<input type="checkbox"/>	CONSUMING	208	523	39.77	4.99
11	<input type="checkbox"/>	DEVOTE	170	585	29.06	4.53
12	<input type="checkbox"/>	ELAPSED	124	310	40.00	4.99
13	<input type="checkbox"/>	TRANSIT	98	862	11.37	3.18
14	<input type="checkbox"/>	RIPE	83	609	13.63	3.44
15	<input type="checkbox"/>	SPAN	82	715	11.47	3.19
16	<input type="checkbox"/>	CREDITS	79	763	10.35	3.04
17	<input type="checkbox"/>	SAVES	69	642	10.75	3.10

**Figure 1** A screenshot of the collocates of *Time* in the BNC

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HELP	?		FREQ	ALL	%	MI
1	<input type="checkbox"/>	YOUNG	3875	32003	12.11	3.60
2	<input type="checkbox"/>	OLDER	1439	8599	16.73	4.07
3	<input type="checkbox"/>	ELDERLY	1303	4877	26.72	4.74
4	<input type="checkbox"/>	DISABLED	996	3230	30.84	4.95
5	<input type="checkbox"/>	KILLED	851	8238	10.33	3.37
6	<input type="checkbox"/>	ORDINARY	630	6733	9.36	3.23
7	<input type="checkbox"/>	THOUSANDS	474	5242	9.04	3.18
8	<input type="checkbox"/>	DEAF	431	2618	16.46	4.05
9	<input type="checkbox"/>	UNEMPLOYED	376	2730	13.77	3.79
10	<input type="checkbox"/>	MENTALLY	364	1938	18.78	4.24
11	<input type="checkbox"/>	HANDICAPPED	287	1541	18.62	4.22
12	<input type="checkbox"/>	MILLIONS	264	2578	10.24	3.36
13	<input type="checkbox"/>	DISABILITIES	252	684	36.84	5.21
14	<input type="checkbox"/>	HOMELESS	220	1043	21.09	4.40
15	<input type="checkbox"/>	EMPLOYS	184	631	29.16	4.87
16	<input type="checkbox"/>	LIBERATION	161	1706	9.44	3.24

**Figure 2 A screenshot of the collocates of *people* in the BNC**

HELP	?		FREQ	ALL	%	MI
1	<input type="checkbox"/>	BEHAVE	228	1685	13.53	4.10
2	<input type="checkbox"/>	EASIEST	170	758	22.43	4.83
3	<input type="checkbox"/>	PAVED	142	356	39.89	5.66
4	<input type="checkbox"/>	WHICHEVER	133	831	16.00	4.34
5	<input type="checkbox"/>	HANDLED	111	1549	7.17	3.19
6	<input type="checkbox"/>	PAVE	94	111	84.68	6.75
7	<input type="checkbox"/>	MILKY	89	279	31.90	5.34
8	<input type="checkbox"/>	BEHAVED	83	749	11.08	3.81
9	<input type="checkbox"/>	SIMPLEST	79	969	8.15	3.37
10	<input type="checkbox"/>	QUICKEST	75	214	35.05	5.48
11	<input type="checkbox"/>	BEHAVING	73	589	12.39	3.98
12	<input type="checkbox"/>	PAVING	71	462	15.37	4.29
13	<input type="checkbox"/>	PENNINE	61	172	35.47	5.49
14	<input type="checkbox"/>	OBSTACLES	48	732	6.56	3.06
15	<input type="checkbox"/>	ROUNDBOUT	47	541	8.69	3.46
16	<input type="checkbox"/>	SAFEST	43	276	15.58	4.31

**Figure 3 A screenshot of the collocates of *way* in the BNC**

HELP	?		FREQ	ALL	%	MI
1	<input type="checkbox"/>	AGO	10190	19057	53.47	6.20
2	<input type="checkbox"/>	TWO	8953	150883	5.93	3.03
3	<input type="checkbox"/>	OVER	8831	128515	6.87	3.24
4	<input type="checkbox"/>	THREE	6286	77467	8.11	3.48
5	<input type="checkbox"/>	FIVE	5418	39453	13.73	4.24
6	<input type="checkbox"/>	LAST	4370	73564	5.94	3.03
7	<input type="checkbox"/>	FEW	3551	42792	8.30	3.51
8	<input type="checkbox"/>	TEN	3528	19418	18.17	4.64
9	<input type="checkbox"/>	FOUR	3512	44797	7.84	3.43
10	<input type="checkbox"/>	LATER	3476	37936	9.16	3.65
11	<input type="checkbox"/>	PAST	3002	25086	11.97	4.04
12	<input type="checkbox"/>	RECENT	2813	15474	18.18	4.64
13	<input type="checkbox"/>	TWENTY	2277	15208	14.97	4.36
14	<input type="checkbox"/>	SIX	1915	29444	6.50	3.16
15	<input type="checkbox"/>	20	1745	13391	13.03	4.16
16	<input type="checkbox"/>	10	1716	18907	9.08	3.64
17	<input type="checkbox"/>	SEVEN	1659	16878	9.83	3.76
18	<input type="checkbox"/>	HUNDRED	1423	18576	7.66	3.40

Figure 4 A screenshot of the collocates of years in the BNC

HELP	?		FREQ	ALL	%	MI
1	<input type="checkbox"/>	LAST	10781	73564	14.66	4.61
2	<input type="checkbox"/>	NEXT	4387	44416	9.88	4.04
3	<input type="checkbox"/>	MILLION	1273	23707	5.37	3.16
4	<input type="checkbox"/>	EARLIER	1110	16145	6.88	3.52
5	<input type="checkbox"/>	AGO	1083	19057	5.68	3.24
6	<input type="checkbox"/>	PREVIOUS	959	11866	8.08	3.75
7	<input type="checkbox"/>	2000	479	1631	29.37	5.61
8	<input type="checkbox"/>	BILLION	478	4556	10.49	4.13
9	<input type="checkbox"/>	OLDS	422	468	90.17	7.23
10	<input type="checkbox"/>	31	410	4713	8.70	3.86
11	<input type="checkbox"/>	PROFITS	307	5742	5.35	3.16
12	<input type="checkbox"/>	PROFIT	289	5842	4.95	3.04
13	<input type="checkbox"/>	FISCAL	210	1288	16.30	4.77
14	<input type="checkbox"/>	EVE	174	1537	11.32	4.24
15	<input type="checkbox"/>	TONNES	172	1796	9.58	4.00
16	<input type="checkbox"/>	ENDING	150	2284	6.57	3.45
17	<input type="checkbox"/>	CALENDAR	133	1066	12.48	4.38
18	<input type="checkbox"/>	ANNIVERSARY	120	1995	6.02	3.33

Figure 5 A screenshot of the collocates of year in the BNC

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HELP	?		FREQ	ALL	%	MI
1	<input type="checkbox"/>	HARD	2022	21766	9.29	3.66
2	<input type="checkbox"/>	UNDERTAKEN	253	2685	9.42	3.68
3	<input type="checkbox"/>	PART-TIME	227	2046	11.09	3.91
4	<input type="checkbox"/>	HARDER	183	2319	7.89	3.42
5	<input type="checkbox"/>	UNDERTAKE	140	1726	8.11	3.46
6	<input type="checkbox"/>	RESTORATION	124	1900	6.53	3.15
7	<input type="checkbox"/>	PIONEERING	95	572	16.61	4.49
8	<input type="checkbox"/>	EMPIRICAL	93	1490	6.24	3.08
9	<input type="checkbox"/>	CLERICAL	74	900	8.22	3.48
10	<input type="checkbox"/>	EFFICIENTLY	65	1072	6.06	3.04
11	<input type="checkbox"/>	ETHIC	63	255	24.71	5.07
12	<input type="checkbox"/>	PREPARATORY	61	392	15.56	4.40
13	<input type="checkbox"/>	COMMENCED	48	651	7.37	3.32
14	<input type="checkbox"/>	OVERTIME	48	654	7.34	3.32
15	<input type="checkbox"/>	REPORTERS	48	705	6.81	3.21
16	<input type="checkbox"/>	REMEDIAL	47	326	14.42	4.29
17	<input type="checkbox"/>	UNPAID	47	579	8.12	3.46
18	<input type="checkbox"/>	MISSIONARY	46	576	7.99	3.44

**Figure 6 A screenshot of the collocates of work in the BNC**

HELP	?		FREQ	ALL	%	MI
1	<input type="checkbox"/>	LOCAL	4421	45552	9.71	4.28
2	<input type="checkbox"/>	CENTRAL	1941	18738	10.36	4.38
3	<input type="checkbox"/>	LABOUR	1441	26519	5.43	3.45
4	<input type="checkbox"/>	POLICY	1412	25443	5.55	3.48
5	<input type="checkbox"/>	CONSERVATIVE	718	6920	10.38	4.38
6	<input type="checkbox"/>	ANNOUNCED	617	9853	6.26	3.65
7	<input type="checkbox"/>	POLICIES	531	8674	6.12	3.62
8	<input type="checkbox"/>	FEDERAL	523	3413	15.32	4.94
9	<input type="checkbox"/>	DEPARTMENTS	492	4186	11.75	4.56
10	<input type="checkbox"/>	SPENDING	452	6449	7.01	3.81
11	<input type="checkbox"/>	COALITION	423	2227	18.99	5.25
12	<input type="checkbox"/>	EXPENDITURE	401	5408	7.41	3.89
13	<input type="checkbox"/>	OFFICIALS	384	5915	6.49	3.70
14	<input type="checkbox"/>	LEADERS	306	6941	4.41	3.14
15	<input type="checkbox"/>	FINANCE	297	7200	4.13	3.05
16	<input type="checkbox"/>	PROPOSALS	280	6695	4.18	3.07
17	<input type="checkbox"/>	MINISTERS	264	6449	4.09	3.04
18	<input type="checkbox"/>	FUNDING	251	4276	5.87	3.56

**Figure 7 A screenshot of the collocates of government in the BNC**

HELP	?		FREQ	ALL	%	MI
1	<input type="checkbox"/>	EVERY	3342	38600	8.66	4.13
2	<input type="checkbox"/>	DAY	2557	59298	4.31	3.13
3	<input type="checkbox"/>	NEXT	2498	44416	5.62	3.51
4	<input type="checkbox"/>	FOLLOWING	1086	26057	4.17	3.08
5	<input type="checkbox"/>	HOURS	808	18073	4.47	3.18
6	<input type="checkbox"/>	CHRISTMAS	478	8512	5.62	3.51
7	<input type="checkbox"/>	BOXING	283	1207	23.45	5.57
8	<input type="checkbox"/>	WEDDING	200	3172	6.31	3.68
9	<input type="checkbox"/>	SUNNY	161	964	16.70	5.08
10	<input type="checkbox"/>	POLLING	113	480	23.54	5.58
11	<input type="checkbox"/>	MEALS	111	2322	4.78	3.28
12	<input type="checkbox"/>	BARRELS	105	544	19.30	5.29
13	<input type="checkbox"/>	VALENTINE	86	311	27.65	5.81
14	<input type="checkbox"/>	SEVENTH	82	1437	5.71	3.53
15	<input type="checkbox"/>	TRIPS	81	1315	6.16	3.64
16	<input type="checkbox"/>	RAINY	75	232	32.33	6.04
17	<input type="checkbox"/>	CALORIES	75	798	9.40	4.25
18	<input type="checkbox"/>	CIGARETTES	75	1255	5.98	3.60

Figure 8 A screenshot of the collocates of day in the BNC

HELP	?		FREQ	ALL	%	MI
1	<input type="checkbox"/>	YOUNG	2806	32003	8.77	4.18
2	<input type="checkbox"/>	OLD	2546	52171	4.88	3.34
3	<input type="checkbox"/>	WOMAN	940	21791	4.31	3.16
4	<input type="checkbox"/>	TALL	405	4296	9.43	4.29
5	<input type="checkbox"/>	ISLE	347	1341	25.88	5.74
6	<input type="checkbox"/>	HANDSOME	143	1570	9.11	4.24
7	<input type="checkbox"/>	BLIND	121	3018	4.01	3.05
8	<input type="checkbox"/>	MIDDLE-AGED	120	691	17.37	5.17
9	<input type="checkbox"/>	BRAVE	82	1704	4.81	3.32
10	<input type="checkbox"/>	INTELLIGENT	78	1820	4.29	3.15
11	<input type="checkbox"/>	UTD	71	213	33.33	6.11
12	<input type="checkbox"/>	WEALTHY	71	1309	5.42	3.49
13	<input type="checkbox"/>	BEARDED	70	322	21.74	5.49
14	<input type="checkbox"/>	BALD	56	608	9.21	4.25
15	<input type="checkbox"/>	CHARMING	56	1324	4.23	3.13
16	<input type="checkbox"/>	RIGHT-HAND	54	608	8.88	4.20
17	<input type="checkbox"/>	JAILED	54	807	6.69	3.79
18	<input type="checkbox"/>	BEARD	54	882	6.12	3.66

Figure 9 A screenshot of the collocates of man in the BNC

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HELP	?		FREQ	ALL	%	MI
1	<input type="checkbox"/>	WAR	3937	26881	14.65	4.96
2	<input type="checkbox"/>	CUP	2162	11774	18.36	5.28
3	<input type="checkbox"/>	THIRD	1795	20426	8.79	4.22
4	<input type="checkbox"/>	SECOND	1792	40249	4.45	3.24
5	<input type="checkbox"/>	OUTSIDE	915	20846	4.39	3.22
6	<input type="checkbox"/>	BANK	883	17031	5.18	3.46
7	<input type="checkbox"/>	THROUGHOUT	713	12126	5.88	3.64
8	<input type="checkbox"/>	ARAB	606	2486	24.38	5.69
9	<input type="checkbox"/>	CHAMPION	605	3315	18.25	5.28
10	<input type="checkbox"/>	PARTS	536	11394	4.70	3.32
11	<input type="checkbox"/>	CHAMPIONSHIP	493	3293	14.97	4.99
12	<input type="checkbox"/>	MIDDLE	484	12447	3.89	3.05
13	<input type="checkbox"/>	LARGEST	459	5640	8.14	4.11
14	<input type="checkbox"/>	WESTERN	396	9586	4.13	3.13
15	<input type="checkbox"/>	II	372	8638	4.31	3.19
16	<input type="checkbox"/>	CHAMPIONSHIPS	370	1491	24.82	5.72
17	<input type="checkbox"/>	BBC	287	4154	6.91	3.87
18	<input type="checkbox"/>	MARKETS	274	5761	4.76	3.34

**Figure 10 A screenshot of the collocates of world in the BNC**

Participants were then asked to extract the collocations; examine the list of the (100) most statistically significant collocates with each noun; and extract the adjectives from each list, see Table 6.

	<b>Noun</b>	<b>Collocating adjectives</b>
<b>1</b>	Time	same – first – long – last – short – next – second
<b>2</b>	People	young – other – elderly – older – disabled – ordinary – local – unemployed – handicapped – working – homeless – different
<b>3</b>	Way	same – long – best – only – easiest – wrong – effective
<b>4</b>	Years	two – five – three – ten – recent – past – four – last – twenty – next – seven – thirty – hundred – several – eight – fifteen – fifty – earlier – early – previous
<b>5</b>	Year	last – next – earlier – previous – following – million – first – new – financial – billion – past – same – fiscal – second – third – current
<b>6</b>	Work	hard – social – part-time – art – pioneering – recent – voluntary – ethic
<b>7</b>	Government	local – central – Labour – conservative – federal – British – coalition – national – interim – provisional – new – transitional – elected
<b>8</b>	Day	every – next – one – following – boxing – same – Christmas – first – previous – present – other – sunny – wedding – valentine – rainy – working – last – hot
<b>9</b>	Man	young – old – tall – dead – big – married – middle-aged – poor – handsome – older – white – rich – thin – bearded – blind – younger – loved – nice – fat – honest – black – elderly
<b>10</b>	World	third – second – Arab – real – first – largest – east – whole – western – modern – developing – wide

**Table 6 The students' extraction of the adjectives collocating with the most frequent 10 nouns in the BNC, using the COLLOCATION function**

Then, participants were asked to answer the fill-in-the-gap activity in Table 1, which they had attempted earlier (post-test). This is followed by a number of activities including the following.

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### Activity 1

Students were asked to form groups of four and use the random collections of concordances provided below to identify collocational patterns (adjective + noun).

#### Sample 1 Random collection of concordances of *time*

pages divided up into 1 inch squares for each day of the week. Every <b>time</b> he had a tantrum she put a tick in the appropriate square. At the
is appropriate where the child is required to do something at or by a particular <b>time</b> . Bedtimes are the classic example. If the PB is identified as being that
way of setting a baseline is to note over a week or two the actual <b>time</b> the child does go to bed. This yields an average of number of hours
). The aim of the intervention would then be to reduce this average ' <b>time</b> late'. TIME MEASUREMENTS ARE BEST USED WHERE FAILURE TO MATCH A DEADLINE IS
ends. These are discrete behaviours and all they require is a simple tick every <b>time</b> they are observed. FREQUENCY COUNTS APPLY TO BEHAVIOURS THAT HAVE C
to a lesson for example, it is more appropriate to measure the length of <b>time</b> they last. This involves noting when the specified behaviour starts, noting again when
noting when the specified behaviour starts, noting again when it ends and recording the <b>time</b> lapse. In these examples the measured behaviour is, most people w
behaviours is most appropriate where the behaviour in question happens relatively rarely, but each <b>time</b> lasts for several hours. Imagine, for example, a problem
. In the case of these problem behaviours, the duration measure should decrease over <b>time</b> if the intervention is working. DURATION MEASUREMENT APPLIES TO
order for parents to express these worries, however, the child must at some <b>time</b> have produced actual behaviour. The task of the professional at this stage is to
is! This looks very time-consuming, I just don't have that much <b>time</b> .' It is important to stress that the steps outline what is happening but
The instructor should distribute Handout 13, then go through the steps one at a <b>time</b> using the details in the text and asking the trainees to complete exercises w
# Find a competing behaviour # Nobody can be in two places at the same <b>time</b> . A child can not be behaving badly if he or she is doing something
. Moreover, there are a number of other types of measurement, such as <b>time</b> sampling, which because of their more specific nature are not included here. Howev
operate and involve a minimum of effort. A system that is too complex and <b>time</b> consuming encourages errors, undermines enthusiasm and can wreck potentially
Recording is an index of whether or not the method of intervention is effective over <b>time</b> and, in turn, of whether or not the child's behaviour is changing
COUNTS # These are the most frequently used records and involve making a mark every <b>time</b> a specified behaviour is witnessed. Commonly they have to record t
The course is concerned with infants aged up to five years. This is the <b>time</b> at which children learn most about the standards of behaviour in our society. We

## Sample 2 Random collection of concordances of *people*

more chatty, outgoing or just plain pretentious than the rest. These are the <b>people</b> to let loose on the press. Remember, your value to a magazine is
physically and economically do it, I would want to take their music to the <b>people</b> wherever they are. Dire straits have persistently played in Belfast, Tel Aviv and
who would like it that way, but I have to bear in mind that <b>people</b> get ill, home-sick and miserable. For instance, touring is very boring.
is important to realize an act isn't a robot. There are plenty of <b>people</b> in the music business who would like it that way, but I have to
the domestic dog or the other way round. This is something a lot of <b>people</b> ignore. I need to find out how my acts view their lives. Do
isn't put into the wrong level or type of venue. For instance, <b>people</b> have booked white country bands into rap clubs. Having worked as an agent,
record with a live show. An established live act will almost certainly play to <b>people</b> who have bought their records. This doesn't necessarily apply to new artists.
classic, I don't have any worries. I have to allow the songwriting <b>people</b> within this operation to have the time and security of mind to get on with
of the problems with fan clubs is that they tend to operate for very young <b>people</b> . There is an exploitative element to them. You are unlikely to offend the
younger musicians, that after a few hit records they are somehow better than other <b>people</b> . They aren't. They happen to do something where there is an enormous
# Fan clubs are a situation where a band can't win. For most <b>people</b> , music is just a part of their leisure, although inevitably there are some
the tape and make my judgement. I don't know any more than other <b>people</b> what is likely to succeed. I just have to react to what I like
or shirt they want, we will almost certainly have them for life. Most <b>people</b> are amazed to get an answer from the band at all, so it is
caused by childhood exposure to lead as low as half the EC limit can affect <b>people</b> well into adulthood, in June 1990, the UK dropped plans to pull out
if you can't trust what comes out of the tap, then, most <b>people</b> feel, something is wrong. # APPENDIX # Areas where Future Breaches of the
, ' has crystallised public concern about the state of our drinking water. Most <b>people</b> can not believe that private companies, with a primary duty to their shareholders,
the Scottish Office, the local community health specialist and the water suppliers had reassured <b>people</b> that there was no risk to health. The 1987-9, FoE- Observer tap,
The Halcrow Report commissioned by the DoE pointed out in 1988 that up to 8,000 <b>people</b> around Luton and Dunstable were drinking water with these solvents at fou

## Sample 3 Random collection of concordances of *way*

was told to put Gabriel in the charge of his daughter, and led the <b>way</b> . He did not put a hand on Gabriel's shoulder.' I'm
saw a play before,' said Gabriel, to indicate in the politest possible <b>way</b> that he did not understand one word of what Lucie was telling him.'
we're liked. You liked us.' She had a bald, stark <b>way</b> of speaking, never looking Gabriel in the eye but staring over his shoulder with
TEN # THE PETITION # BURN EVERYTHING, said Lucie. It's the only <b>way</b> . So they put a torch to the Mason's wagon and, as the
. But I'll get it straight at Walsingham. I'll walk all the <b>way</b> , and in my bare feet, too... You could pray for me,
the likes of you... I must be starting out now. It's a <b>way</b> to go, I think. And on foot.' He took off his
an angel, no more than any of us. But look at it my <b>way</b> . I never thought you were. I knew all along that you weren't
out long since." I did! But in a sort of a <b>way</b> ... oh, out there! Out there and in here! I want a
ninety gallons of each a week. The beer is made in as traditional a <b>way</b> as possible, using the finest malt, only whole hops and no sugars.
It was his life. If he had to go I think that was the <b>way</b> he would have wanted it Voice over Mr Moore had been displaying the Spitfire for
, two buffons macaws and a hyacinth macaw were taken by thieves who forced their <b>way</b> into cages at a Bird Sanctuary in Cornwall. Police found the birds wrap
productions. But the trust denies this. It says the move is the only <b>way</b> to keep the theatre open. He says the public won't notice any difference
died because of all the smoke and flames. There's praise tonight for the <b>way</b> the twins father quickly got the children clear of the smoke and flames: He
the girls to Yorkshire but local boy Ray Powell raised the roof by fighting his <b>way</b> through to the semi-finals # Five firms facing charges over the death of a Glou
fuel. One of the more than a hundred and thirty children who die that <b>way</b> every year. The aim of the tv campaign is to get parents to wonder
misfit. Something vulnerable in her manner brings out an element of sadism in the <b>way</b> the long final act teases her endurance; but it also makes the denouem
three stitches at right of centre on to the second transfer tool in the same <b>way</b> . Move the second transfer tool from the right to the left and slide the
, over the next two needles and so on. This is a fairly easy <b>way</b> to produce bands of pattern on machines of this type. When weaving on a

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**Sample 4 Random collection of concordances of years**

active, you know, I was. (laugh). They used to have the <b>Years</b> ago, they used to have er big (unclear) and lace, like this,
like, as I say because I, I've been left now (pause) ten <b>years</b> (pause) eleven, eleven in May er so erm I, I really, I
is clean now. And it must be, I've been up here twenty-three <b>years</b> , it must be getting on for thirty years old that teapot and er I
I've been up here twenty-three years, it must be getting on for thirty <b>years</b> old that teapot and er I couldn't have afforded that money for that stainless
a say on something that's be topical on the television that particular week. <b>Years</b> ago we used to have the W E A Lecturers and erm that, they
moving.' You know why you are here, of course?' The <b>years</b> of formal drill and training came to Vologsky's assistance. His body remained stiff
, a kind of freedom which had only been an idealistic daydream for nearly sixty <b>years</b> . Long before the incriminating photograph turned up on Major Tzann's
the game. It was survival. He was sober in an instant, his <b>years</b> of training coming back to him as though no time had passed at all.
was -- still am.' Hayman sighed uncertainly.' It's been six <b>years</b> , Paul. You've been out of the field for six years. Everything
been six years, Paul. You've been out of the field for six <b>years</b> . Everything has changed... people, contacts, methods.' Manville refused to
using disguised names, she boasts that 'I loved him passionately, adoringly. <b>Years</b> have passed over my head but I have never felt the worship, the love
interested in her. No doubt the coin is always fascinated by its obverse. <b>Years</b> later, when I travelled to Egypt, I tried to seek her out.
as though she was in constant need of care and attention, and over the <b>years</b> she had found that it was far easier to allow people to think what they
can see the suit in O'Hare's bar. And in Ballyoonan, some sixty <b>years</b> ago, Jimmy Marley himself caught one. He held him firmly, as his
'll see, when you go. And the finding of the suit a few <b>years</b> ago was the start of the hunt that they now have every year,'
destroyed by fire. # STROUD/Gloucestershire The man is aged between twenty five and fifty <b>years</b> old, five feet ten inches tall, of slim build, with prominent f
Lawyer attempts rape # A solicitor, Angus Diggle, has been jailed for three <b>years</b> for attempted rape in Scotland. # New driving breath test # A new system

**Sample 5 Random collection of concordances of year**

) and the death of the Duc d'Orleans (killed in his carriage the previous <b>year</b> ). Louise Colet, striving for modernity in her poem 'La Paysanne'
out of which bright finches would swoop. But this, at a million a <b>year</b> , was a cheap dream. Du Camp reports Gustave's plans for 'A
imagining what he would do if he had an income of a million francs a <b>year</b> . In such dreams servants would ease him into shoes studded with diamonds; he
twice about climbing the walls of an undecorated chapel. But Gabriel had spent a <b>year</b> as a stonemason's apprentice, clinging to the rafters and cornices of holy
or more!" Ah, then..." But they might this <b>year!</b> ' interrupted the secretary.' You're not wanted here. Take yourselves
It was like seeing the lock for which he had carried around the key, <b>year</b> after ignorant year.' What's the matter. You're letting in a
seeing the lock for which he had carried around the key, year after ignorant <b>year</b> .' What's the matter. You're letting in a draught,'
would you say to having your own thoroughbred for one hundred and ninety pounds a <b>year</b> ... no its not one that's fallen off the back of a horse box
Stratford # MALCOLM SWAIN/Son # Det Chief Insp PETE BURROWS/Thames Valley Police Voice over 89 <b>year</b> old William Swain died at his home in Stony Stratford
to recover but believe it or not they're already talking about and planning next <b>year</b> 's race # Medical researchers believe they could be close to pinning down the
years ago, Stephen Dent's life dramatically changed. A fit and healthy 10 <b>year</b> old, he was playing in the lounge with his brother when he fell on
For Kathmandu the marathon is one of the biggest... grandest sporting events of the <b>year</b> and what a welcome there is for Ieuan Ellis as he races down the straig
stretch of motorway has been closed because of serious structural faults in a thirty four <b>year</b> old bridge. Engineers discovered cracks in two supports of the brid
4 and a half stone by the time of her death on December 23rd last <b>year</b> . But she would never admit to being anorexic and refused help: Male speaker
to close. # Work has started on cutting back a group of two thousand <b>year</b> old lime trees at one of the country's oldest arboretums. It's being
Hall is owned by Oxford Council. But as long the rent of 10,000 a <b>year</b> continues to be paid, council officers aren't bothered if Mrs Maxwell lives there
have under age sex and drug sessions at his home has been jailed for a <b>year</b> . The court was told that youngsters also used his home to watch pornographic vide
David Crabtree reports # (----) # EVESHAM/Worcestershire The Crown court in Kidderminster heard that 46 <b>year</b> old, Andrew Tracey had once been a member of

### Sample 6 Random collection of concordances of *work*

possible and if you have to return to stocking stitch do make sure that the <b>work</b> matches on both sides of the neck. Striped club colours for the welts,
it with the history of science, or, more precisely, given the historical <b>work</b> done by Lakatos and his followers, by confronting it with the history of physics
to regard Kuhn's characterization of science as arising solely from a description of the <b>work</b> of scientists. Kuhn insists that his account constitutes a theory of science
they take for granted, they are able to perform the exacting experimental and theoretical <b>work</b> necessary to improve the match between the paradigm and nature
parts of the framework in which they worked all of the time then no detailed <b>work</b> would ever get done. If all scientists were and remained normal scientists then
others intact (Kohler, Schwartz, and Fuxe 1979). Much of our <b>work</b> concerns the mantle of the forebrain, the neocortex, which is now recognized by
Raichle 1983). The problem with other recording studies, notably single unit recording <b>work</b> , is often too much selectivity with a resultant bias towards a particular
possible to identify the function of the subcortical area. An excellent example is the <b>work</b> that has been done on the hippocampus. The most obvious consequence
of auditory space (Knudsen, DuLac, and Esterly 1987), but this <b>work</b> has focused on subcortical mechanisms. We know that the auditory cortex is involved in
now of secondary importance. What consequences follow from these two main changes for day-to-day <b>work</b> in residential homes? Two issues in particular stand
to alternative family care shaped the form of subsequent endeavours to help children. Social <b>work</b> intervention concentrated on planning for children in care, and
child or care staff to adjust to each other. Casework with parents, therapeutic <b>work</b> with children in care, and skills training for residential workers and field workers
are young people not children; second, that the main emphasis in child care <b>work</b> has been on the discussion of personal family relationships and in working towards
illustrate: A former social work student, after completing her training, went to <b>work</b> in a residential unit for adolescents. Most of the young people had suffered severe
care could be seen as beneficial in its own right, whatever the outcome of <b>work</b> to restore family relationships. This might create a balance in the day-to-day environment
help is more complex than has been conveyed by my observations of the student's <b>work</b> with John. Residential workers significantly contribute to the psychological
, neither to the exclusion of the other. To illustrate: A former social <b>work</b> student, after completing her training, went to work in a residential unit for
of care for children and young people with failure, and thought that good social <b>work</b> practice meant avoiding the use of care, especially residential care. Consequ

### Sample 7 Random collection of concordances of *government*

platform. Her supporters in the audience made it clear that her recent attacks on <b>Government</b> policy have, if anything, made her more popular with party activists
submit a full planning application. # The Bishop of Oxford has appealed to the <b>Government</b> not to cut aid to the Third World. He says it would be morally
an open letter to local MPs which includes frontline Ministers. But tonight, the <b>Government</b> couldn't give any assurances about overseas aid. Gargy Patel reports.
David Bryer says by cutting Third World aid to help reduce public spending, the <b>Government</b> would be cutting off it's nose to spite it's face. The effect
who are powerless, says the Bishop of Oxford, without the help of this <b>Government</b> and those of other developed countries. And they would face certain disaster
... and at three pounds each, they're ten pounds cheaper than the official <b>Government</b> version. Male speaker I've actually read it three timesThe idea was born in
. Male speaker We feel people have a right to read this and if the <b>Government</b> isn't going to help them, we are Female speaker After the French Referendum
An RAF base which had been due to close next year as part of the <b>Government</b> 's defence cuts is stay open and be taken over by the army. The
scheduled to close next April as part of 'Options for Change'... the <b>government</b> 's restructuring of defence. The parachute packing hanger had been destroyed by fire
post of Swindon's Economic director has led to anger and protest. The Local <b>Government</b> union NALGO calls it an infamous act of betrayal to Jamie Robertson, who
one of the most self-contained parts of the British Rail network, factors which the <b>Government</b> believes will make it attractive to investors. Privatisation will be the
Victims of the Maxwell pensions scandal have set up an action committee to press the <b>Government</b> for compensation. They also plan to campaign for new laws to
the Commons the rail unions protested at today's announcement. Their leaders said the <b>Government</b> was asset stripping British Rail. R01/31/93 21:11 pah 0:15 h
The news came as a complete surprise to workers at the Oxfordshire base. The <b>Government</b> says it will work to salvage a long term future for the company. But
rejected any idea of an immediate cut in interest rates. # 1 # The <b>Government</b> has limited public sector pay rises to one point five per cent, although teachers
attacked Becky were destroyed the same day. Great Danes are not affected by the <b>Government</b> 's dangerous dogs legislation. # Good evening. # ANNE DAWSON #
major cases like this leg reconstruction, there's little competition. But under the <b>Government</b> 's health reforms, routine surgery like a knee replacement, can easily
. The proceedings are expected to last 2 days. # Health watchdogs fear the <b>Government</b> 's NHS reforms could mean hundreds of hospital patients will have to trav

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**Sample 8 Random collection of concordances of *day***

about the things we've talked about. Tomorrow we've got quite a lively <b>day</b> ahead of us erm by the time we do our group work tomorrow first thing
of them you can practice and put into action what you talked about. Fun <b>day</b> , more fun than today and today I hope I've provided some of the
I do but today there's just there's just not enough time in a <b>day</b> to do it. You know communications is a very big area there's a
about it later (SP:PS4DB) okay (SP:PS4DF) whereas you look back at the end of the <b>day</b> and if you haven't done what you did you sort of feel like a
country in less than an hour, headed anywhere in the world. Then one <b>day</b> , soon, he would be back.' You bastard, Hayman,'
who is Alex Raneleigh, based in Brussels. It leaves a four to six <b>day</b> delay in communication, unfortunately, but it protects Kirov's cover. In the
pretty daughter. From them I learned that the coronation was to be on the <b>day</b> after next, and not in three weeks. The old lady was more interested
years I have lived without knowing your whereabouts, there was perhaps not a single <b>day</b> when I did not think of you.' During the course of those long
boots climbing the wooden stairs to fetch a body. Mourning was scarcely possible that <b>day</b> : practicalities supervened. There was a lock of Caroline's hair to be cut
put down only to incompetence, to sloppy literary habits. I read the other <b>day</b> a well praised first novel in which the narrator -- who is both sexually inexperienced
I could no longer pretend that I wasn't pregnant. He found me one <b>day</b> , crying my heart out, and because he was the sort of man he
long sigh.' I think I always knew that it would come out one <b>day</b> . Skeletons have a habit of breaking out of closets, don't they?
riveting to stare at in the fireplace.' And did you have a good <b>day</b> ?' his mother persisted.' Yes. I went to Newgrange.'
, collected some brochures from the hall table, and took herself out for the <b>day</b> . She would find Mrs McMahon when she came back, and Feargal could make
broad smile, he explained.' When I was talking to him the other <b>day</b> , and I happened to mention that an old friend of my sister's was
Unrepentant, he nodded.' And Feargal said he would be down there that <b>day</b> , and I said -- you know how you do -- if you happen to
her head, she lay for a while thinking over the extraordinary events of the <b>day</b> . Two days, she thought sleepily. A lot could happen in two days
lot could happen in two days. And with the thought of spending a whole <b>day</b> in his company she gave a contented little smile and snuggled under the duvet.

**Sample 9 Random collection of concordances of *man***

was puzzled even more, but he took the hint. Somehow, the old <b>man</b> had let out a dangerous secret, one which could not be discussed in a
was stunned.' Murdered? Why?' Your father was a brave <b>man</b> , Kirov went on.' He dared to feel, as many of
be in direct touch with the pilot. Phasenko was a cell-link, a contact <b>man</b> only. He had never been used for a hit, and it was unlikely
still counting on over 40 safe hours, Manville left his office. The condemned <b>man</b> had failed to eat a hearty breakfast, and lunch had consisted of two tacos
three cups of coffee. There was little point, Manville decided, on a <b>man</b> eating on an empty stomach. He went straight to the nearest bar, where
seated at his desk, holding it between trembling fingers. He could imagine the <b>man</b> 's eyes, filled with loathing and disgust, unable to register the full extent
of a surgeon's scalpel. The inner robot switched off, leaving the conscious <b>man</b> to cope with real problems, the immediacy of living. Pumping adrenalin lent a
heard a thin squeal of pain and sensed, rather than actually saw, a <b>man</b> topple sideways into the gutter. A searing fire of elation bathed him suddenly,
Before ducking back into cover, he was rewarded by a clear sight of a <b>man</b> falling back behind the Dodge, Manville's bullet buried in his stomach. He
waiting, thinking. They would try a rush next, he predicted. One <b>man</b> to come out of cover, to draw his fire, while the remaining operative
the ground and rolled out of the doorway on to the sidewalk. The fourth <b>man</b> , caught without cover, had no chance at all. Manville loosed three shots
the slugs finding a mark in his chest. With a horrible gurgle, the <b>man</b> toppled backwards to lay across the trunk of the car, finally slithering down it
was a solid counter-measure. You simply resisted your natural temptation to worry about the <b>man</b> breaking cover, and took the hit-man before he took you. Conv
the temptation to shift focus. Exactly as expected, the shape of the second <b>man</b> emerged suddenly above the car's hood, ready to pump bullets towards Manville's
bind him to reality. He was still, for the moment, a military <b>man</b> . Therefore, he followed orders. He was a pilot. It was his
of the Potomac River. # Kirov's face bore the unmistakable look of a <b>man</b> who has deliberately walked into a cage of lions and emerged again unscathed. Surprise
night-fighting technique in group tactics. Right at the beginning of a gun-fight, one <b>man</b> feigns a hit, screams, and goes down. He stays down, just
terribly wrong. He could have failed to get a personal interview with the one <b>man</b> with whom he had some sort of contact. His request could have been investigate

### Sample 10 Random collection of concordances of *world*

reply: do you think they didn't happen? Do you think the Ancient <b>World</b> was all rose petals, lute music, and plump vats of honey sealed with
Ellie went outside into the grounds. Blue was still howling his sorrow to the <b>world</b> , and she slipped in to comfort him.' Never mind, boy,
, and it's a sad fact of life that there are people in this <b>world</b> who only see money, only see advantage -- and you wouldn't believe the
He was -- interesting, and looked as though he knew his way around the <b>world</b> both backwards and forwards, including the inside of a lady's bedroom -- not
' He made it sound as though it was the most wonderful thing in the <b>world</b> .' Please,' she said huskily. Don't lose your head,
, ' she explained matter-of-factly as though it were the most usual thing in the <b>world</b> .' They hide a number of stone leprechauns on the mountain,' she
. Gabriel had never realized how many sick or imperfect people there were in the <b>world</b> . A lidded box was nailed to the side of the cart where the scholarly
The Devil tempts all God's creatures so as to keep goodness out of the <b>world</b> . So this was the Angel Gabriel's temptation: to stop working miracles and
working miracles? What with cursing priests and so very many sick people, the <b>world</b> suddenly seemed an unkind, unhappy place. So much work for one angel.
him. I don't want to hear that man's name ever again, <b>world</b> without end. Amen. Got it? Not from now till Doomsday. Son
forgeries to coincide with a stage play based on the life of one of the <b>world</b> 's great forgers. # MIKE ROWBOTTOM/Oxford # Library Pictures # ROY MARSDEN/Actor
over At more than five thousand tons the most technologically advanced press plant in the <b>world</b> is so big it was built in a shipyard. It took a hundred and
Voice over The horses, Nelson, Regent, and Baron are part of a <b>world</b> record winning team from Bath, more used to taking part in displays. Majestic
# CHRIS JANIUREK/Project Spark Voice over The fighting and horror stories from Bosnia seem a <b>world</b> away as fifteen refugee children and six of their mothers wa
from the Hitchhiker's Guide to the Galaxy. Oxford's student societies have become <b>world</b> famous, especially the drama group and the Oxford Union. Others use a
Of course not. Tom Keating spent a lifetime cocking a snook at the art <b>world</b> . He painted in various styles and passed them off as originals making a lot
men of the Glosters, it could be any trouble spot, anywhere in the <b>world</b> . It's dirty and dangerous. The battle is hard and hot. Male
end up after the auction. The auction has attracted enquiries from all over the <b>world</b> . Messers Stallone and Schwarzenegger might be interested in this Sicilian hea

### Activity 2

Students were asked to use each pattern [adjective + noun] they have extracted in Activity 1 to produce at least two sentences of their own.

Note that this activity requires students to go beyond just identifying the patterns in the concordance lines and come up with their own sentences, i.e., put these patterns into use.

## 5. Conclusion

The research question addressed in this paper (i.e., 'Would the use of corpus-aided discovery learning activities have an impact on extending the scope of students' vocabulary?') was clearly answered in the discussion of the task. We have presented an example for the possibility of using a corpus-aided discovery learning (CADL) approach in teaching/learning vocabulary. The use of CADL activities in the classroom was quite advantageous since they allowed students to examine the vocabulary in their natural context, to learn vocabulary in frequently occurring combinations and to store a variety of expressions that they may not be able to create by themselves. The effectiveness of the CADL approach was confirmed by the wider scope of the vocabulary used by students after the task as compared to their narrow choices of vocabulary items before using the CADL approach.

This paper provides a practical example of how corpora can be put to use in the English language classroom. Corpus data are resources that provide descriptive insights relevant to how people use language and provide tools that enable learners to analyse how people use different language forms. The use of the CADL approach provides learners with the possibility to enrich their vocabulary by increasing the number of adjectives they can use with each noun. It also provides learners with access to some information about the culture of the British people from the authentic material<sup>4</sup>. It also accords with the principles of data-driven learning and promotes students' discovery-based learning by

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<sup>4</sup> In one of the concordances of the noun 'day', the participants came across the pattern 'Boxing day' and we discussed the significance of this day in British culture. Boxing Day is a holiday celebrated on the day after Christmas Day, i.e., the 26<sup>th</sup> of December. Currently, Boxing Day is primarily known as a shopping holiday since it is characterised by huge discounts on most items in the shops.

encouraging them to detect linguistic patterns by themselves. It should be noted that the learning activities employed in this study are consistent with the current principles of language learning theory, that is, learners develop more autonomy when they receive guidance about how to observe language and detect patterns.

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