

CORPUS TECHNOLOGIES IN TEACHING ACADEMIC WRITING

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АКАДЕМИК YOZUVNI O'QITISHDA KORPUS TEXNOLOGIYALARI

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КОРПУСНЫЕ ТЕХНОЛОГИИ В ОБУЧЕНИИ АКАДЕМИЧЕСКОМУ ПИСЬМУ

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Abstract. There have been a lot of investigations in the sphere of Corpus Linguistics and Corpus-based Language pedagogy which have revealed the insights and methodologies of corpus linguistics to second language writing pedagogy and research. However, there are still gaps referring to the empirical application of corpus tools in teaching writing. The following article is aimed to examine the effects of corpus tools application in writing classes, in particular the how corpus technologies can be incorporated into writing instruction. The research has involved qualitative and quantitative methods of investigation, as well as some surveys and interviews. The results of the research have shown that corpora can be used as a meaningful and authentic reference for language materials which provide learners with real usage of words and collocation patterns. More importantly, the integration of corpus into the writing classroom appears to provide the solution to the writing problems of learners and also promote their independent learning skills. Besides, the study focuses on the necessity to increase the learners' willingness and success in using corpora. The findings also suggest that teachers, before incorporating corpus-based teaching into their instruction, need to understand the basic principles of the usage of corpus technologies and how these technologies can be effectively integrated into the writing instruction.

Keywords: corpus; corpus technologies; corpus linguistics; corpus-based language pedagogy; writing instruction.

Annotatsiya. Korpus lingvistikasi va korpusga asoslangan til pedagogikasi sohasida ko'plab tadqiqotlar olib borildi, ular korpus lingvistikasining ikkinchi til yozish pedagogikasi va tadqiqotiga oid tushunchalari va metodologiyalarini ochib berdi. Biroq yozishni o'rgatishda korpus vositalarini empirik qo'llash bo'yicha hali ham kamchiliklar mavjud. Shu sababli, ushbu maqola korpus vositalarini yozish darslarida qo'llash ta'sirini va eng muhimi, korpus texnologiyalarini yozish yo'riqnomasiga qanday kiritish mumkinligini o'rganishga qaratilgan. Tadqiqotda tekshirishning

sifat va miqdoriy usullari, shuningdek, ba'zi so'rovlar va suhbatlar o'tkazildi. Tadqiqot natijalari shuni ko'rsatdiki, korpusdan o'quvchilarga so'zlarni va birikma naqshlaridan haqiqiy foydalanishni ta'minlaydigan til materiallari uchun mazmunli va haqiqiy ma'lumotnoma sifatida foydalanish mumkin. Eng muhimi, korpusning yozuv sinfiga integratsiyalashuvi o'quvchilarning yozish muammolarini hal qilishni ta'minlaydi, shuningdek, ularning mustaqil ta'lim ko'nikmalarini rivojlantiradi. Bundan tashqari, ushbu maqola o'quvchilarning korpusdan foydalanishga tayyorligi va muvaffaqiyati darajasini oshirish zarurligiga qaratilgan. Natijalar shuni ko'rsatdiki, o'qituvchilar korpusga asoslangan o'qitishni o'z darslariga kiritishdan oldin korpus texnologiyalaridan foydalanishning asosiy tamoyillarini va ushbu texnologiyalarni yozma darsga qanday qilib samarali integratsiya qilish mumkinligini tushunishlari kerak.

Kalit so'zlar: korpus; korpus texnologiyalari; korpus tilshunosligi; korpus asosidagi til pedagogikasi; yozish ko'rsatmasi.

Аннотация. В области корпусной лингвистики и корпусной языковой педагогики было проведено множество исследований, которые раскрыли понимание и методологию корпусной лингвистики для педагогики и исследований в области обучения письму на втором языке. Однако до сих пор существуют пробелы в эмпирическом применении корпусных инструментов в обучении письму. Поэтому цель данной статьи — изучить эффекты применения корпусных инструментов на уроках письма, а главное — как корпусные технологии могут быть включены в процесс обучения письму. В исследовании использовались качественные и количественные методы исследования, а также опрос и интервью. Результаты исследования показали, что корпуса могут быть использованы в качестве значимого и аутентичного источника языкового материала, который предоставляет учащимся реальное использование слов и коллокационных моделей. Более того, интеграция корпусов в класс письменной речи позволяет решить проблемы письменной речи учащихся, а также способствует развитию их навыков самостоятельного обучения. Кроме того, в статье подчеркивается необходимость повышения уровня готовности и успешности учащихся в использовании корпусов. Результаты исследования также свидетельствуют о том, что преподавателям, прежде чем внедрять обучение на основе корпусов в учебный процесс, необходимо понять основные принципы использования корпусных технологий и то, как эти технологии могут быть эффективно интегрированы в обучение письму.

Ключевые слова: корпуса; корпусные технологии; корпусная лингвистика; корпусная педагогика; обучение письму.

Introduction. The rapid development of computer technology has popularized corpus linguistics in language research as it provides access to authentic language materials and broad texts. In other words, corpus-based investigations are based on the usage of a “concordance program,” which enables the identification of patterns of language use (6, 548–560). With the help of such programs, multiple examples of lexical and grammatical features of the language, as well as word frequency and collocation patterns, are provided. Before the introduction of corpora into linguistic investigations, language

description was solely based on intuition rather than on empirical observation (13, 1–16). However, such intuition is often unreliable because the assumptions based on intuitions are rather subjective by nature. Therefore, the “corpus-based approach has been regarded as a viable source to represent actual language use since it produces objective data about language use” (2, 101–115). In this view of language, a commonly accepted pedagogical premise is that “the most common words and their combinations should form the basis of instruction” (13, 298). A lot of language educators point out that it is significant to teach learners the most commonly used language, which they highly likely encounter in different communicative situations (3, 331–336). Besides, the corpus-based teaching approach can not only enhance learners’ awareness of contextualized grammar and lexis but expand their understanding of the functions of words in context. So far, most corpus investigations have mainly focused on the dictionary compiling process and materials development. However, very few empirical investigations into the use of corpus technology in classroom practice have been carried out (1, 123). As a result, although the previous studies have presented a general understanding of corpus use in writing, we still lack insights into how corpus technology can be integrated into an actual writing classroom and how much it can contribute to the development of writing skills. In short, the previous studies did not fully illuminate students’ corpus use in writing and its impact on their attitudes and writing in-depth, thus resulting in a limited understanding of the role of corpus use in student writing development. Therefore, the focus of this study is to identify the profiles of learners using corpora in writing and its influence on the development of their writing competence.

Literature review. As mentioned above, the focus of corpus-based research in writing skills development mainly referred to materials development and syllabi design, which means that researchers are concerned about how to transfer corpus-based findings to teaching materials rather than giving students opportunities to use the corpus themselves. Q. Ma differentiates two basic directions of corpus research, namely, “corpus literacy and corpus-based language pedagogy (CBLP)”. The researcher points out that CBLP builds on corpus literacy and is ‘the ability to integrate corpus linguistics technology into classroom language pedagogy to facilitate language teaching’ (14, 2). According to the author, the role of a teacher in incorporating corpora into writing instruction is enormous because, without basic corpus literacy, it is highly complicated to motivate and foster learners to implement corpus tools in their writing. As most learners have acquired familiarity with the computer, using the corpus is gaining prominence in writing research (15, 177). The corpus as a linguistic resource can help broaden the students’ understanding of language and enhance their writing skills. Also, the new technology may change the practice and process of writing.

However, the empirical evidence of the effect of corpora usage in writing classes researchers and its effect on learners writing

behavior and performance is not given yet. Some researchers investigated the effect of a corpus-based teaching approach on students' linguistic competence (8). Stevens (2009), for example, studied the effect of a corpus-based approach to vocabulary learning. In his research, he compared conventional gap-filling tasks with concordance-based tasks on vocabulary. The experiment was conducted among freshmen university students who were given gap filler exercises with ten words blanked out and concordance-based exercises with ten sets of contexts with the same ten words blanked out. According to the results, concordance-based exercises were performed more effectively by learners. This experiment, despite being remarkable for its innovative nature, does not demonstrate a broader scope of corpus technology characteristics that can affect students' overall writing development (18, 47–63).

However, not only learners' performance is important, but students' attitudes toward corpus technology and their motivation also play vital role. Ferris and Hedgcock (2008) state that "the evidence is strong that computer use improves student attitudes, confidence, and motivation and that these benefits may be even more significant for writing development" (7, 281). Sun (2017) also focused on students' attitudes examining learners' attitudes to corpus-based lessons for three weeks. The focus of the lessons was to teach corpus techniques and technologies. The researcher's survey showed that students were mainly positive toward corpus-based learning. However, this study presented a general overview of the student's attitudes, but it failed to suggest how to incorporate the approach in a writing classroom (19, 278).

Tribble (2002) examined how effective the usage of the corpus can be if it is used by learners independently. The authors used learners' corpus in their experiment, which was compiled from learners' own writings. The researchers found that learners need the training to lead to independent corpus explorations. In addition, they suggested a further study about "the relationship between the use of concordance strategies and language learning outcomes, and the relationship between varying degrees of concordance strategy training and learning outcomes" (21, 14). They stated that individual differences of learners should be taken into consideration while incorporating corpus into writing classes.

Q. Ma (2021) used a case study to examine both students' capabilities to implement corpora in their independent learning and how effective it can be in enhancing their lexical competence. In other words, the aim of the study was to assess learners' knowledge of particular language patterns and collocations before and after the case study. Besides, the effectiveness of the use of corpora in learners' self-study and self-learning was investigated. The results illustrated that corpus increased learners' text comprehension (14).

Thus, as we reviewed, most studies have focused on the effectiveness of corpora in teaching vocabulary and grammar, and some of the studies have aimed to find out how students become

independent investigators of corpora through training. For this reason, small learners' corpora were compiled, through which students were also encouraged to use problem-solving approaches to revise their own writing. However, it should be noted that a small corpus and concordance program is not accessible to other teachers and researchers.

In addition, previous studies have increased our understanding of corpus use in writing, but they did not provide an extensive treatment of the whole issue regarding the corpus approach to writing pedagogy. First, most of the studies focused on the students' independent uses of corpora rather than incorporating the approach as part of classroom experiences. Concordance has been recommended as a promising pedagogical tool with which "learners explore the language for themselves, and the role of instruction is to provide tools and resources for doing so" (5, 301). However, as Tribble (2002) indicates, concordance has been used more as a research strategy than as part of teaching (21). In other words, while much of the literature has argued for using corpora in language teaching, corpus use has rarely been observed in an actual classroom. The lack of practice is partly because corpus use has usually been initiated by researchers rather than by classroom teachers who are involved in actual teaching. In order to use the approach successfully in a real classroom, we need to explore the questions "how can corpus-based activities best be integrated with 'normal' language teaching at different levels of proficiency? How can learners (and teachers) best be trained to profit from these resources?" (9, 245). In order to answer the aforementioned questions, we conducted our own research to explore the effectiveness of corpus tools and exercises based on corpora.

Secondly, few studies have explored how the use of corpora affects students' writing behavior and process. As Phinney (1996) points out, technology may not automatically generate better-written products, but it may change "the way writers approach the writing process" (16, 139). She adds that the focus in research on computer-assisted writing has shifted from "the question of whether using a computer helps students produce better texts" to "the changing writing behaviors and pedagogies engendered by the electronic medium, and the ways that computer technology affects how we think about the writing process" (16, 139). Much needs to be done to find out how the use of corpora affects students' writing experiences as a whole. Thirdly, little research has looked at the students' individual experiences in the analysis of corpus use. Most of the studies assumed learners to be a homogeneous group of people with no individualistic characteristics. They applied the same approach to all the learners without recognizing different uses by individuals with different personal backgrounds (4, 199). However, given the individual and private process of writing, it is also important to study writing as an individual activity of each learner. We need to develop learner-specific descriptions of corpus use in order to adjust teaching focus to each learner in the classroom. It is true that many scholars have

emphasized the usefulness of small corpora in language teaching. However, large corpora can also play an important role in L2 writing pedagogy. Stevens (2009) also indicates that the lack of familiarity with the new technique is one major reason for concordance is not widely accepted in language pedagogy. Likely, teachers not versed in computer and corpus investigation may be discouraged from exploiting the research (18). As Ferris and Hedgcock (2008) indicate, “there is much that we do not yet know about the effects of computer use on student writers” (7, 267). In particular, we need an empirical report from actual teaching that uses easily accessible corpora to encourage teachers and students to go about using the new corpus approach in their own settings.

Research Methods. Considering all the above mentioned corpus tools and technologies that may positively influence the English learning process, the following research questions arise.

1. Are there significant differences in the writing accuracy and complexity before and after the implementation of corpus-based assignments?
2. Which tools and technologies are easier to apply by students?
3. Which tools are more beneficial for learners to foster their writing development regarding accuracy and complexity? (17)

Participants

The participants in this study were the 3rd year students of the 1st English language faculty, USWLU. Initially, there were 30 students, but 4 of them missed lessons several times and did not submit assignments on time, being, therefore, excluded from the experiment. Finally, in total, there were 26 participants, representatives of groups 1932 (experimental group) and 1936 (controlled group). According to a placement test which was given in the form of 10 multiple choice questions and writing one paragraph of an argumentative for and against essay, the level of participants was B2 according to CEFR. The reason for taking this category of students was because they had two years of experience at university and were not novices in their institution.

The participants were interviewed about the general processes they routinely followed in the course of writing. This required them to recall the sequences and steps they followed in the writing of the essay as a draft that was submitted as a class assignment. The participants, as third-year students, engaged in disciplinary EAP (English for Academic Purposes) writing that requires extensive use of external resources, not self-expressive writing. The salient characteristics of the participants' writing processes are described in three stages: drafting, composing and editing. It should be noted that the approach of the composition instructor might have affected the participants' organizing and composing processes. In fact, all of them reported that they tried to follow the structure of a paper they had learned at the beginning of the course. For example, some participants reported that they followed the instruction on schema because if they had a clear structure, it would be easier for them to fill sentences. On the other

hand, this study attempted to examine the participants' writing processes by comparing their first writing experiences for a paper to self-reported comments about their general writing processes at the beginning of the study.

Corpus of Contemporary American English (COCA) was applied in the present study to assist the students in the experimental group in redrafting essays for the following:

- It's a fast way to get words, chunks, and collocation analysis;
- It's simple to use and flexible. Students can not only perform simple queries just by typing in a single word or a sequence of lexical items but also conduct more complex searches by using syntax search technology. This means students can easily get the high-frequent adjective or adverb collocates of target words, which to some extent can solve students' problems of under-using adjectives or adverbs and improve the lexical richness of their writing. The advanced query syntax can assist students in getting some special sentence structure, which provides guidance for redrafting and editing sentences.

- It provides a whole range of features for corpus analysis, such as concordance display, sort, collocations, distribution analysis, text analysis, register/genre analysis;

Corpus-driven tasks and exercises

In this section, a number of tasks as well as some small independent research projects will be presented. The materials are taken from the database of Corpus of Contemporary American English (COCA).

Example of a concordance-based assignments

This task is aimed at mastering lexical units, which are difficult for common implementation, and this task is recommended to students with B2 proficiency level. However, the concordance sorting tasks can be used from the earliest period of teaching; namely, it can be implemented not only for B2 level learners but also for A2 and B1. Here, everything depends on the corpus and computer skills of learners and the desire of an educator to develop those skills. In this task, learners are asked to transform the information presented in

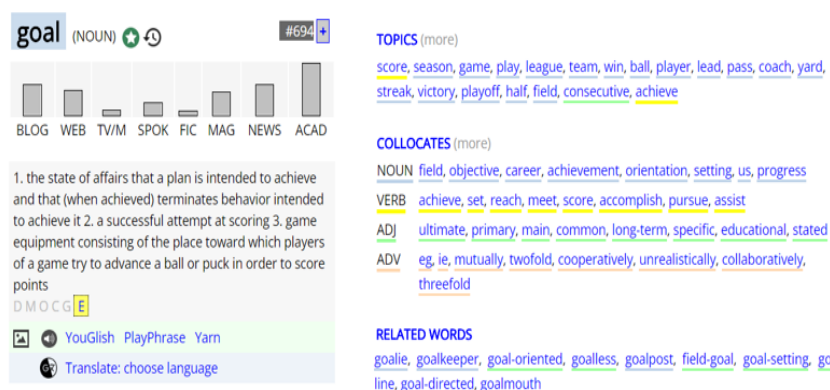
Table 1. Collocation profile of the noun *goal*.

1.	which led to the goal, it worked fairly well. England nicked a lucky goal , and were heading towards a 0-1 win which would have been a great result
2.	the 2014 3174761 # Goal : Apologize to activists detained for taking photos near Customs and Border Protection buildings and
3.	who wants to quit but can't . The typical approach is to set a goal to smoke fewer cigarettes -- or even quite out right. But imagine instead that
4.	completely different. # Remember you are one team, and you have the same goal . # No matter what your role, you need to champion the causes of
5.	you need to champion the causes of your department while keeping in mind the ultimate goal your whole company is working towards. Keep conflicts in perspective and find ways to
6.	of Colorado, has been a volunteer based organization for two years. # The goal of GVZQ is to have a positive impact on the community by improving the economic
7.	connected with the outdoors and nature. " # Gardner has been working toward this goal for most of her life. She earned a BA in psychology with a minor
8.	! # Anne Samoilov is a full-time mom, business + launch strategist whose main goal in life is to simplify the so-called complex and difficult steps to achieving your dreams
9.	away from her and her dog. # That offended him. # " My goal at that point was to make him a breed ambassador, " Baliles said.

concordance into a so-called “collocation profile” of the word. The task is aimed at the development of the collocation competence of learners. In the following table, the fragment of the noun *goal* is presented (Tab.1).

The expected result is that students will note the most frequent collocations in this full concordance with the adjectives *ultimate*, *primary*, *main*, *common*, *long-term*, etc., and with verbs like *achieve*, *set*, *reach*, and *score* (10, 147). Besides, learners can find some other most important grammatical features of the word, namely, grammatically possible variants of the noun with the verbs *build* and *promote* in pre-position (Pic.1).

Picture 1. Extended profile of the word *goal*.



In terms of grammatical variants of the noun *goal*, there is a clear tendency towards the combination with the verbs in pre-position, while the combination of the verbs in post-position is rarely observed. There is also a clear tendency to make a collocation scheme with the verb *to achieve* (7229 occurrences in the COCA), and less frequently with the verbs *reassess* and *prioritize*. A noticeable syntactic structure for the combination *to achieve a goal* is that it is mostly used in the function of an adverbial modifier of purpose (Tab. 2).

Table 2.
Combinability and frequency data of the phrase *to achieve goal*

1.	ASADI) on the theme: " Improving Public Policy to achieve the Millennium Development Goals in Africa: Harnessing Science and Technology Capacity ". This Conference was held in
2.	The role of African Science Academies in improving public policy to achieve the Millennium Development Goals in Africa; Using science and evidence to improve decision making in Africa;
3.	What are some specific steps federal agencies may take to achieve their affirmative action goals for hiring and advancement of individuals with disabilities?
4.	the president -- one will serve as a strategic plan for achieving the priorities and goals identified by the commission and the other will address high-priority areas targeted by the commission
5.) results. # Libertarianism is about not initiating force to achieve political or social goals . What is good or bad for anyone is up to the individual.

Further tasks which students can do to consolidate certain lexical units are to make their own sentences using those collocations of the given lexical units, search for examples of them in mass media articles, and implement these units in communication tasks.

Sociolinguistic variables' analysis task

Sociolinguistic variables are accepted as differentiative tools when “on different occasions and for different purposes, English is used as a means of communication” (11, 53). In such sort of tasks, learners can be asked to analyze how social variables such as gender and age are reflected by language means to express ‘agreement/disagreement’, ‘certainty/uncertainty’, ‘disappointment’, ‘annoyance and anger’, ‘permission’, ‘requests’, and other meanings associated with Social English. The corpus data can be used to demonstrate how social variation and language use are related (11, 57). The expressions associated with a vague language (sort of, not quite, somewhat, I suppose, etc.) can also be analyzed with reference to the speaker’s age as an important parameter of social differentiation in language use:

Given this relatively permissive standard of judicial review, the first-cut propriety of the Super Settlement concept comes into focus. The incentives for EPA and state environmental protection agencies to be enthusiastic about the Super Settlement concept have already been mentioned. (n202) The use of Super Settlements can accelerate and ultimately simplify the oversight process for responsible state agencies and EPA, helping them to achieve the goals of their governing cleanup statutes while allowing them to shift active assessment and cleanup responsibilities to private parties at the earliest possible point in time. If Maine DEP's obvious enthusiasm for the concept is any indication.

Task. Students can be asked to compare formal/informal and academic/non-academic usage of lexical units paying attention to differences and similarities in the usage of vocabulary and certain collocations. For example, whether the collocation “achieve a goal” can only be used in informal texts or there are some instances of its implementation in academic contexts. Besides, learners can be asked to analyze how formulaic expressions like “well”, “I mean”, “you know”, “you see” and reaction signals are differentiated by the parameter of a speaker’s age.

The corpus-based spoken dialogues seem to be more reliable than that textbooks and dictionaries as they provide and add to learners’ background knowledge more facts about the speakers, namely, their age, gender, level of education, social position, and the nature of the relationship between them. Besides, such corpus texts give information about the time and place of the speech event, what the conversation is about, etc. The style and register features accompanying a given speech act, such as dialogue/monologue, informational/creative, and others, are also of great importance. These bits of knowledge present a complete discourse unit, which merges structural, semantic, and contextual dimensions (20, 79).

Analysis and results. The purpose of the aforementioned tasks was 1) to make students aware of the most common usage patterns and 2) to ease the writing process with a convenient on-hand tool. In our research, we were convinced that learners need to work with real words because “usage may be more important than grammar for advanced learners.” Therefore, the implementation of corpus-based teaching can help learners to process information more quickly and

thoroughly. Besides, our aim was to integrate corpus use into learners' writing for everyday purposes, encouraging them to identify their own writing problems so they could use the corpus to solve the problems on their own. In this sense, the corpus was used as both an instructional tool and also as a dynamic resource for independent writing. Students were required to search the corpus regarding their own writing problems and to search the solutions results on a regular basis. By doing so, we expected that by the end of the course, the class would generate a useful lexicon that stemmed from their own errors.

At the end of the course, a survey was administered to all students in the class in order to examine the learners' overall use of corpus technology in writing instruction. Overall, the class students were positive about using the corpus in writing. They perceived corpus use to be helpful for improving writing in general and for acquiring common usage patterns in particular, which confirmed the purported usefulness of corpus integration into the writing course. Corpus implementation not only supplied them with concrete linguistic input but also elevated their confidence in writing. They did not report any major problems in using the corpus, except that it was time-consuming. All in all, they were fairly positive about the advantages of the corpus as a useful resource for writing.

Conclusion. To summarize, this article investigated how corpora can be incorporated into language classrooms and revealed learners' perceptions of its benefits and difficulties. It is worth noting that the students expressed similar points regarding advantages, which refer to learning common usage patterns and showing subtle nuances and contexts of use. But student's perceptions of difficulties diverged, ranging from technological issues while using corpus tools, to time availability. These involve technical skills, content knowledge, English, and writing proficiency. Also noteworthy was the relationship between participants' corpus use frequency and the number of writing assignments they had to complete. The participants' corpus use decreased when they had fewer writing assignments, which means that participants were rather reluctant to use corpora to do tasks and assignments on other subjects but writing. Therefore, it is necessary, though, to be cautious about placing too much emphasis on the antecedents or determinants of the changes that were observed in the students' perceptions. Unlike an experimental study that controls other "confounding" variables, this study was conducted during their writing classes. Thus, it may be misleading to conclude that the students' perceptions of language and writing changed only due to corpus use experiences. The relatively short length of the study is another limitation. The six-month duration makes it difficult to identify any conclusive evidence of changes in writing practices. These limitations need to be taken into account during our further investigations regarding the enhancements of the writing competence of learners with the incorporation of corpus-based teaching.

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