LINGUISTIC CORPORA TECHNOLOGY AS A DIDACTIC TOOL IN TRAINING FUTURE TRANSLATORS

Abstract. The anthropocosmic vector of modern Pedagogy and Linguistics requires development of such tools for future translators that enable as quick as possible processing of huge amounts of information with production of automatically determined frequencies, on the one hand. On the other hand, it demands minimization of the subjective influence of an individual researcher on the received results, giving a chance for detecting and analysing linguistic phenomena unnoticed earlier. Linguistic corpora are a state-of-the-art technology that can solve the outlined problem perfectly, for it opens a broad variety of practical and theoretical research options, and at the same time it is a didactic tool fulfilling purely didactic, cognitive, informative, formative, and testing/checking functions. Therefore, the use of linguistic corpora technology can be considered from two perspectives – learning to use corpora to translate and learning to translate using corpora. Corpora technology employment can enhance both objectivity and reliability of the results researchers obtain when processing language data, too. The application of corpus approach by translators-to-be gives an opportunity to study any language units in different speech genres in different types of discourse, as well as in various contexts in the corpus, without being hindered by the specificity of the studied linguistic unit. Translation students can search for discrete lexical/grammatical units, based on concordances, showing their functioning in different styles and areas of use. Moreover, parallel corpora provide ready solutions for the choice of translation models in certain conditions.

The purpose of this article, stipulated by the relevance of the set problem, as well as the lack of ready parallel corpora in Ukraine, covers development of special methodological procedures and
exercises for future translators aimed at their mastering of corpus technology as a didactic tool. The paper also describes several technological solutions (Multiconcord, BNC, parallel corpus), which provide the possibilities of such a corpus approach in practice for teaching-learning translators-to-be. In conclusions it is stressed that mastering such linguistic corpora technology at the university is very important for future translators, with a corpus being a useful and convenient didactic tool in their professional area. The prospects for further research can be seen in the development of a set of exercises consolidating future translators’ abilities to successfully process different corpora data.

**Keywords:** corpora technology; a didactic tool; parallel corpus; methodological procedures and exercises; training future translators.

### 1. INTRODUCTION

**Statement of the problem.** Linguistic corpora are a state-of-the-art technology that opens a broad variety of practical and theoretical research options in different professional and scientific domains. It is stipulated by the fact that Linguistics as a scientific field is in search for new ways of enhancing both objectivity and reliability of the results it obtains when processing language data. In this respect, it is Corpus Linguistics with its corpus approach, that enables as quick as possible processing of huge amounts of information with production of automatically defined frequencies. In addition, the use of digital corpora minimizes the influence of an individual researcher on the received results, giving a chance for detecting and analysing linguistic phenomena unnoticed earlier. Besides, huge amounts of authentic data provide a basis for studying language facts, developing skills, and consolidating abilities from pedagogical perspective. Thus, the anthropocosmic vector of modern Pedagogy and Linguistics [1, p. 139, 143] directs scientific studies into the prospective area of corpus research, including employment of corpora technology as a didactic tool (Norsimah Mat Awal, Imran Ho-Abdullah, Intan Safinaz Zainudin, Szőke-Milinte Enikő, Natalie Kübler, etc.) and creation of different types of text corpora (L. Augustinus, A. Baranov, S. Buk, N. Darchuk, Y. Demyanchuk, L. Hareide, H. Hasselgård, A. Koroljova, N. Lemish, S. Matvieieva, I. Meizerska, M. Shvedova, D. Sichinava, J. Tiedemann, O. Tyshchenko-Monastyrskaya, Š. Vintar, etc.). Theoretical and methodological principles of professional training of translators were formulated by such well-known in Ukraine scholars as L. Chernovatyi, A. Gordieieva, V. Karaban, T. Kyyak, S. Maksimov, L. Naumenko, A. Olhovska, I. Simkova.

It should be mentioned that linguistic corpora can find their practical application not only in (foreign) language teaching / learning, cross-linguistic corpus research, computational linguistics, but also in methodology of translation studies, enhancing the level of training future translators (L. Chernovatyi, V. Karaban, T. Kyyak, A. Neubert, P. Newmark, O. Popova, O. Shabliy, etc.). Focusing on teaching machine translation to the students majoring in the Humanities, A. Bogush, T. Korolova, and O. Popova feature its importance as a reliable and effective tool, which gives the possibility to make a high speed confidential online versatile translation etc., which is of low cost or even free of charge [2, p. 123]. In this paper we will try to provide grounds for the efficiency of linguistic corpora technology (parallel corpora inclusive) as a valuable didactic tool for future translators.

**Analysis of recent research and publications.** It is common knowledge that no professionals are born with ready skills and competences. Only strong efforts in the strive to become a true professional can give and do finally bring the desired results. These statements account for special learning and acquisition of a set of specific abilities through methods / techniques facilitating translation as a process.
As one of the industries, translation has its own standards, as well as official orders and requirements determining the educational curricula / syllabi for training future translators at the higher education establishments. Among the most known are as follows:


Having studied the abovementioned European and American standards which regulate conditions for translation services provision, S. Amelina and R. Tarasenko conclude that training of future translators in Ukrainian higher educational institutions should take into account the requirements described by these standards, especially those concerning the use of information technologies in translation activity.

It is important that the recent general European BS EN ISO 17100:2015 standard describes the translation competences (pure translation competence, linguistic and textual competence, competence in research, receipt and processing of information, cultural competence, technical competence, industry-specific competence) [3, p. 61–62]. The most topical thing is that this European Standard has a separate section “Technical and technological resources” covering among the others “technological tools of translation, of translation management systems, of terminology management systems, as well as of other systems managing lingual resources, related to translation” [3, p. 63]. This Standard also regulates a wide range of additional services in translation with growing demand, including “alignment of bilingual parallel texts” [3, p. 64].

Based on foreign professional standards (American, British, and Australian), Ukrainian scholar I. Simkova highlights the requirements for translation / interpreting training as “the student’s source language and target language knowledge at level 5, the target language culture knowledge, the peculiarities of verbal communication and the knowledge of registers (formal, colloquial, informal, etc.)” [4, p. 82]. She stresses the necessity to take all these into account while developing translation training methodology and curricula.

A. Olhovska confirms the results obtained by I. Simkova, S. Amelina, and R. Tarasenko that Ukrainian standards for translation competences still fail to include a technical competence which foreign standards describe as the skills and abilities to “professionally process and perform translations” employing various technical tools [5, p. 53].


The authors of this paper support the above statement of their colleagues but would like to add the information which recently appeared in this respect. Thus, Order of the Ministry of Education and Science of Ukraine No. 871 dd 20.06.2019 approving the Standard for Higher Education for specialty 035 Philology (03 Humanities) (the second (masters’) degree in higher education) pronounces that the aim of teaching involves training of specialists
capable of solving complex tasks and problems, which anticipates carrying-out research and/or implementing innovations, being characterized by uncertainty of conditions and requirements, in activities related to analysis, creation (translation included), and evaluation of written and oral texts of different genres and styles, as well as by organization of successful communication in different languages (highlighted in bold by us) [6, p. 6].

Among general competences enunciated in this Order competence No. 8 covers skills of information and communicative technologies application/employment/use; competence No.11 declares capability to carry out research on the appropriate level. A significant role is played by special competences within which we highlight No. 4, concerning capability to carry out a scientific analysis and structuring of language/speech and literary material taking into account the classical and innovative methodological principles [6, p. 7].

All the above-mentioned stipulated the purpose of this article as development of special methodological procedures and exercises for future translators aimed at their mastering of corpora technology as a didactic tool, with describing several technological solutions (Multiconcord, BNC, parallel corpus as didactic tools), which can essentially improve translators-to-be teaching-learning through implementing innovations from corpus linguistics.

2. METHODS

The research methods include empirical and theoretical ones, enabling us to study the experience of foreign and Ukrainian methodologists and linguists in the field of didactic tools use in teaching-learning translation. Such approach also builds the basis for developing different exercises to master corpus-based technology, as well as for parallel corpus construction. The exercises for future translators described in section 3.4 of this paper (“An Expert in AntConc employment”, “A Champion in SL linguistic unit register compilation”, “A Master of SL Tagging”, and “Quick eyes – mind – hands”) were developed by A. Zernetska a professor at Department of Applied Language Studies, Comparative Linguistics, and Translation.

Among the major methods used are descriptive analysis (to present the achievements of the researchers working in this area), structural linguistic method (with its distributional, componential, collocational, transformational analysis, and analysis of immediate constituents – to prepare annotations/tagging for the parallel corpus), and corpus analysis (to trace the functioning of a single lexical unit in various communicative situations).

3. FINDINGS

As Natalie Kübler argues, “professional translators are still not very keen on using corpora for translation” [7, p. 62]. It is the case for Western Europe which can be proven by the fact that in 2011 about 42% translators did not hear of corpora yet. The reasons for that are lack of availability of corpus resources in many languages and domains; absence of corpus skills in job advertisements on the translation market; prevalence of cultural studies over interest in linguistics; “limited use of corpora in pedagogic settings” [7, p. 65].

Studying parallel corpus as a tool in teaching translation of English phrasal verbs into Malay in 2014, Norsimah Mat Awal, Imran Ho-Abdullah, Intan Safinaz Zainudin make the conclusion that “<...> corpus-based translation study is indeed “the new paradigm” in translation studies” [8, p. 885]. They chose to focus on how parallel corpus can provide evidence to help students make better choices in their translations of phrasal verbs. The authors have built a small parallel corpus which offers the students the various necessary
information to be put in their translation exercises, and “they [their students] are very receptive towards employing corpus as one of a translator’s tool” [ibid].

Nowadays there are still no available corpora for many languages / specialized domains / language pairs [9], [10, p. 2214], making it necessary to create more and more different corpora. There is a particular demand for dynamic corpora created “in accordance with specific and individual requirements” [9, p. 40–41], depending on the specific research or teaching tasks.

Assessing the situation with corpora availability and accessibility in Ukraine, it should be mentioned that higher educational institutions of Ukraine, including Taras Shevchenko National University of Kyiv, Kyiv National Linguistic University (KNLU), National Pedagogical Dragomanov University, and others, have begun their work on creating corpora of texts for various purposes. At present, the Corpus of Ukrainian Language (Taras Shevchenko National University of Kyiv), the Corpus of Texts of Grammarly Functionality (Donetsk National University), the Corpus of Scientific Articles Annotations in Computational Linguistics (KNLU), the Multilingual Parallel Corpus of Spoken Texts (based on subtitles to modern television series (KNLU), the Corpus of Texts in Computational Linguistics (KNLU) are already available for use. All the above-mentioned corpora demonstrate the lack of parallel corpora of texts (fiction, scientific, legal, etc.) for students majoring in translation. The latter can serve as the basis for detecting and analysing translation models, thus teaching translation students to choose the most efficient solution while translating based on special teaching-learning exercises developed with data from such a corpus. The obviousness of such a need for parallel corpora creation is emphasized by Ukrainian researchers N.P. Darchuk, M.O. Langenbach, V.M. Sorokin, Ya.V. Khodakivska [11, p. 29].

As mentioned before, the major precondition for the corpus to serve as a useful tool is its compliance with the research task. Moreover, it must have as many as possible mark-ups / annotations / tagging to give a researcher / a translator-to-be all the necessary data he / she requires to achieve his / her aims. The availability of various mark-ups / annotations / tagging signifies that nowadays there exist different types of corpora, depending upon the criteria according to which they are constructed. Currently, we distinguish between

- corpora of full texts or fragments;
- research corpora: illustrative or interpretive;
- written, spoken or mixed corpora;
- monolingual or multilingual corpora;
- synchronic or diachronic corpora;
- static or dynamic corpora;
- balanced or monitoring corpora;
- parallel or comparative corpora;
- small, medium or large corpora and others.

For translators the most useful types of corpora are parallel and multilingual comparative ones, which can be explained by their practical aims.

Specifying the definition of “corpus” in Linguistics, the authors of this paper agree with I.V. Meizerska, who identifies a corpus as a complex coherent system with its logical structural organization and differential features. Besides, I.V. Meizerska mentions that the textual principles of analysis do not work for such a system. In her opinion, a corpus is usually constructed on the basis of a large representative group of texts, processed in such a way that the language material is placed on the principle of concordance [12, p. 56]. When constructing a corpus, each text is marked, it is divided into fragments that illustrate the context and are grouped into a sample of all possible contexts attested in a representative group of texts. Unlike ordinary texts, characterized by linear, horizontal organization, genre
and style specificity, author’s individuality, structural and semantic integrity, presence of a certain communicative purpose, a corpus does not have any common communicative purpose (communicative purpose is traced only at the level of a single sentence). The contexts in a corpus, presented in concordance, show the functioning of the linguistic unit in different styles, areas of use, giving a broad picture of real language usage [12, p. 57]. Thus, the application of the corpus approach opens the prospects for the study of any linguistic units in different speech genres (that is, any genres represented in a particular corpus), and therefore it allows defying the studied linguistic unit specificity of use in different types of discourse.

Translation students have a wide range of different courses preparing them for their future job. The list of courses includes “Translational Analysis of the Text”, “Practical Course of Translation”, “Two-way Interpretation”, “Practice of Written Translation”, “Theory and Practice of Translation”. These disciplines are expected to develop various professional skills, giving the students the understanding of translation process combined with translation practice. The authors of this article are convinced that the use of information technologies will help students to acquire special skills and consolidating abilities necessary for adequate translation of various lexical units / grammatical constructions in different contexts. In the paragraphs below we discuss four of the most used tools based on information technologies: 3.1 Multiconcord; 3.2 British National Corpus (BNC); 3.3 Parallel Corpora technologies, and 3.4 Translation Strategies and Exercises based on Parallel Corpus as a Didactic Tool.

3.1. Multiconcord

Concordance is recognized as one of the most convenient and reliable tools in teaching-learning translators-to-be. This is due to the fact that concordances make it possible to identify both lexical and grammatical compatibility of lexemes, as well as their complete syntagmatic characteristics. They can also simplify the process of finding a contextually dependent correspondence in translation [13, p. 20]. For example, the Multiconcord program [14] builds concordances for more than six languages (among them English, German, French, Greek, Italian, and Danish – one of the languages is selected as the original, the remaining five become target ones). The corpus of parallel texts is fully integrated into a program that allows you to make search in different languages, words, word-forms, word-combinations / phrases from novels, short stories, articles, speeches, etc. Multiconcord makes it possible to establish lexical correspondences (the simplest case), as well as to index entire fragments of sentences and texts. The options of search are presented in Figure 1 below:

![Figure 1. An example of Search Instructions window (from Multiconcord)](image)
Multiconcord gives an opportunity to sort results of the processed search, as shown in Figure 2:

![Figure 2. An example of Sort Results window (from Multiconcord)](image)

or even select test views, as in Figure 3:

![Figure 3. An example of Select Test Views window (from Multiconcord)](image)

Summarizing, it should be underlined that Multiconcord presents one of the first versions of corpora technology in general, opening the possibilities for users to find different language units in a wide variety of contexts, with simultaneous display of the results for two languages in one window. Its employment in pedagogical process realizes a didactic function showing all the possible contexts of any unit under study. Therefore, Multiconcord supplies variety of authentic language data to develop skill building exercises.

### 3.2. British National Corpus (BNC)

BNC [15] is the second informational technology, mastering of which we consider essential and even obligatory before constructing parallel corpora. It makes it possible to integrate already tested functions of monolingual corpora into the annotation of parallel
corpora. BNC is among the most famous corpora in the world, being one of the best examples
to be followed by the other corpora builders. There are several reasons for this, namely: it can
be easily accessed, it has a big compilation of texts from various genres, it is well annotated, it
has a wide range of versatile options. Below the reader is acquainted with the set of BNC’s
possibilities, the use of which gives reliable results in practice.

When a user clicks on the link https://www.english-corpora.org/bnc/, he / she receives
an access to the window with four basic functions: SEARCH, FREQUENCY, CONTEXT
(left and right combinability of a lexical unit with different level of the depth) and
ACCOUNT (presenting the results of one’s work in the corpus).

It is possible to make SEARCH with five options: List, Chart, Collocates, Compare,
and KWIC (Keyword in Context). All the above-mentioned options are connected with certain
data appearance on the screen, depending upon the criteria you are interested in. All these
options include frequency, showing the higher or lower tendency for a lexical unit / chunk
use.

Option List enables search for separate words (for example, consider); for all the forms
of this word (consider, considers, considered, considering); it allows obtaining lists of words
with a part of the necessary unit (considerable, ill-considered, over-consideration, etc.);
finding the word in position between two others, indicated by a user (more than = more often
than, more money than, etc.), detecting the nouns used with the mentioned adjective (for
example, roughNOUN = rough trade, rough guide, rough ground, etc.). It is also possible to
identify synonyms to the given lexical unit (for example, gorgeous the synonymous row
covers beautiful, lovely, attractive and so on), or to get an access to the lists of words under
various collective notions (for example: clothes: hat, tie, dress, etc.).

It should be stressed that option List shows frequency for each word-form in the phrase,
while option Chart presents the general frequency for each genre / subgenre of the corpus.
Results can be presented in tables with horizontal or vertical orientation.

Option Collocates enables search for words, making either left-side or right-side
combinability of a lexical unit, or even identifying both-sided collocations. Such a
collostructional approach can facilitate the complete understanding and functioning of a
discrete lexeme, and contributes to its correct interpretation. In addition, clicking on the
analyzed unit (effect, for example), a user receives the whole context, as in: The only instant
adverse side effect is a desperate thirst, … [15].

With the option Compare a user can look at combinations of two words, for example:
‘consider’ vs. ‘think’ or ‘woman’ vs. ‘man’ with their frequency-indication for each position.

Option KWIC enables output of contexts of various depth, meaning the number of
words on the left or / and on the right of a studied unit. It is also possible to sort the obtained
results of search according to one word on the left, for example. Data are presented in a table.
To give an idea, the following fragment with feel is given in a linear format (where the results
are separated by slash “/”): that she was beginning (had long begun!) to feel a little (a whole
lot!) worried about him. / shown that, that if people are well trained, they feel a lot more
loyalty towards the company cos they feel that / round Bristol like a dog on a lead. I could
feel a lump in my throat like solid sick. It ‘ll choke / and he had gone out of his way to make
her feel a part of the team when she first arrived at UNACO. / out of their proper medium, the
audience or reader should feel a sense of impropriety or disorder, as if some basic law [9].

Thus, BNC as a monolingual corpus provides a variety of data, representing the
opportunities for parallel corpora, as the same data but already processed for two languages in
parallel text will facilitate the analysis of translation models for translators-to-be.

Variety of options can serve as a basis for development of different types of
consolidating exercises.
3.3. Parallel Corpora

Information technologies used in Multiconcord and BNC, in our opinion, can be successfully used in construction of parallel corpora. By “parallel corpus” we mean a set of two (or even more, depending on the number of languages in which professional translation of the original text was made) sub-corpora, the first of which includes texts in electronic form in the original language, and the second (or all the rest) – translation of the original texts into target language / languages. A parallel corpus, like any other corpus in general, must begin with the development of structure and content of the Database, containing different materials premarked by certain criteria [16, p. 121–122]. However, the Parallel Corpus Database must be arranged in such a way as to provide direct access to two (several) sub-corpora at the same time, since the system must simultaneously display units of original text with translated equivalents of individual words, phrases, constructions, as for instance in Figure 4:

<table>
<thead>
<tr>
<th>Chapter One</th>
<th>Розділ перший</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owl Post</td>
<td>Совітова почта</td>
</tr>
<tr>
<td>1. 1. Harry Potter was a highly unusual boy in many ways. гадрі Поттер був дуже незвичажим хлопчиком.</td>
<td>1. 1.</td>
</tr>
<tr>
<td>2. For one thing, he hated the summer holidays more than any other time of year. Побою, він був існуєнцем літніх каникул.</td>
<td>2.</td>
</tr>
<tr>
<td>3. For another, he really wanted to do his homework but was forced to do it in secret, in the dead of night. По-друге, він все ж хотів робити свої завдання, але доводилося це робити нічно.</td>
<td>3.</td>
</tr>
<tr>
<td>4. And he also happened to be a wizard. Два та 4, і він так же був волшебником.</td>
<td>4.</td>
</tr>
<tr>
<td>5. It was nearly midnight, and he was lying on his stomach in bed, the blankets drawn right over his head like a tent, a flashlight in one hand and a large leather-bound book (A History of Magic by Bathilda Bagshot) propped open against the pillow. Було близько звіринця, і він лежав у ліжку, як палатка, одна рука була в руці, одна кінду в книгу з охапкою в крішці на лавці.</td>
<td>5. 1.</td>
</tr>
<tr>
<td>6. Harry moved the tip of his eagle-feather quill down the page, forming as he looked for something that would help him write his essay, 'Witch Burning in the Fourteenth Century Was Completely Pointless – Discuss.' Гаррі відкинув кінду пера і перешкоджав у написанні викладу. &quot;Відомо, що в 14 столітті відбувалися ще раз бойкові процеси. &quot;</td>
<td>6.</td>
</tr>
</tbody>
</table>

Figure 4. An excerpt from the parallel corpus under construction by the Department of Applied Language Studies, Comparative Linguistics and Translation of National Pedagogical Dragomanov University (parallel texts of J.K. Rowling’s novel “Harry Potter and the Sorcerer’s Stone”)

It is a well-known fact that corpora of parallel texts require special software, enabling alignment of original texts abstracts / sentences with their translated versions into other languages inclusive. According to A.M. Baranov (and it is grounded from the theoretical standpoint), the most efficient technologies hereto must be machine translation systems with their universal language, which would be a mediator language [17]. However, no such universal language has yet been created.

The importance of parallel corpora for translation is also stressed by the Ukrainian researcher Yu.I. Demyanchuk [18, p. 104]. This is explained by their practical purpose: the possibility to explore the selection of equivalents on a specific language material, to identify and analyse translation transformations and different translation techniques, to improve monolingual / multilingual dictionaries, to teach machine translation systems [18, p. 106]. The data from parallel corpora can be used in translation lexicography, comparative lexical and grammatical works, study of translation theory and practice, language teaching [19, p. 19–20], as well as development of machine translation systems [20, p. 35]. O. Tyszchenko-Monastyrska, M. Shvedova, and D. Sichina state that the larger the corpus, the higher the reliability of non-random recurrence of certain models of translation [20, p. 36]. Translated texts, like the originals, reveal the fullness and complexity of interlingual correspondences picture in each case [20, p. 37].

Considering strong potential of Corpus Linguistics and the need for available and accessible parallel corpus for their students, in 2018 the Department of Applied Language Studies, Comparative Linguistics and Translation of the Faculty of Foreign Philology of the
National Pedagogical Dragomanov University announced the beginning English-Ukrainian parallel corpus construction for specialty 035 Philology, 035.04 Germanic Languages and Literature (English as the first language, translation included) [1, p. 210]. This happened due to a number of reasons, the main ones being:

a) the possibilities offered by a parallel corpus for both professional translators and beginners, that is, the ability of a parallel corpus to function as a tool for quick analysis of a language unit and its translation variants with employment of large amount of textual and extra-linguistic information whilst immersed in context [13, c. 185–186];

b) the maximum objectivity of the study and comparison of linguistic units within such corpora through abstraction from subjectivity of a researcher [1, p. 207];

c) the absence of publicly available English-Ukrainian corpora of parallel texts, based on which translators-to-be could be trained through the multiple analysis of translation transformations applied by professional translators.

All the above mentioned emphasizes the relevance of creating a parallel corpus for translation students.

Construction of such a corpus involves several stages, including the compulsory mark-up and annotation / tagging of parallel texts: meta-textual, structural, and linguistic. Having decided on tagging for meta-textual and structural mark-up, the Department of Applied Language Studies, Comparative Linguistics, and Translation is working over tags inventory for morphological mark-up.

It should be mentioned that morphological mark-up includes information about morphological forms and meanings, that is, it is not just an indication of part of speech, but also a marking of number, gender, case, grammatical tense, etc., depending on the available categories of a particular part of speech. Morphological mark-up is an obligatory one for the user to search for words, their forms and constructions [11], [13].

For the morphological mark-up of the original English texts, the authors of this article formed an inventory of tags based on the material from the Grammar of the English Language by V.L. Kaushanska & others [21], where information about all parts of speech is presented in detail. So, at this stage of the English-Ukrainian parallel corpus construction, the inventory of tags (based on the Latin alphabet letters) for 13 English parts of speech has the following components: the Noun (N), the Verb (V), the Pronoun (Prn), the Adjective (Adj), the Adverb (Adv), the Numeral (Num), the Modal Words (MW), the Stative (St), the Interjection (Int), the Article (Art), the Preposition (Prp), the Conjunction (Cnj), the Particle (Prt). Tags for grammatical tense of the Verb include <P> for past: <PS> for Past Simple, <PC> for Past Continuous, <PPf> for Past Perfect, <PPfC> for Past Perfect Continuous; <Pr> for present: <PrS> for Present Simple, <PrC> for Present Continuous, <PrPf> for Present Perfect, <PrPfC> for Present Perfect Continuous; <F> for future: <FS> for Future Simple, <FC> for Future Continuous, <FPf> for Future Perfect, <FPfC> for Future Perfect Continuous; <Fp> for Future in the Past: <FSP> for Future Simple in the Past, <FCP> for Future Continuous in the Past, <FPfCP> for Future Perfect Continuous in the Past. The following characteristics were also identified for the Verb: aspect: Continuous – <Cnt>, Non-continuous – <NCnt>; correlation: Perfect – <Pf>, Non-perfect – <NPf>; mood: Indicative – <Ind>, Imperative – <Imp>, Subjunctive – <SbjI>, <SbjII>, <SbjIII>, <Sbj0>; voice: Active – <Act>, Passive – <Pss>; number: singular – <Sing>, plural – <Pl>; person: first person – <1p>, second person – <2p>, third person – <3p>; finiteness of the verb form: finites – <Fin>, non-finites (= verbids / verbals) – <NFIn>: Infinitive – <Inf>, Participle I – <PI>, Participle II – <PII>, Gerund – <Ger>; phase of the denoted action: phase of beginning – <PhBg>, phase of continuation – <PhCnt>, phase of repetition – <PhRp>, phase of finishing – <PhFn>.
Of course, it is obvious that morphological tagging does not cover the inventory of all the tags. According to the morphological standard of the National Corpus of the Russian Language (NCRL), for example, tagging must be developed for four "fields":

- a separate lexeme, a word-form of which is described, in compliance with its part of speech characteristics;
- a set of grammatical features of such lexeme / classification characteristics;
- a set of grammatical features of such a word-form / word-form change characteristics;
- information on non-standard grammatical form, intentional spelling deviations, etc. [22].

The latter "field" is of particular interest, as it is often left out of researchers’ focus, especially at the initial stage of work. The NCRL absolutely naturally marks obsolete and spoken forms, spelling and phonetic deviations, digital / numeric signs (instead of numerals), initials (capital letters with dots), abbreviations. The similar approach will be employed in the project of the Department of Applied Language Studies, Comparative Linguistics and Translation. In addition, as D.V. Sichinava [23] mentions, it is advisable to apply the morphological mark-up / tagging in several stages: analysis, filtering and removal of homonymy. Therefore, we still need to develop a procedure for filtering and removing homonymy for morphological mark-up, which is especially necessary when working with English texts, where the same lexeme can be / function as a noun, a verb, or a conjunction and a pronoun, etc.

Thus, the building of inventory for morphological mark-up includes not only tagging parts of speech and all lexico-semantic and grammatical categories / forms in parallel texts, but also identifying anomalies / deviations of forms, as well as developing the algorithms for filtering and homonymy removal (making prospects for our further work). The next paragraph will show that the use of parallel corpus is a highly useful didactic tool. It is suitable for developing testing and checking exercises as well as preparing the practical sections of papers, monographs and dissertations of future translators.

3.4. Translation Strategies and Exercises based on Parallel Corpus as a Didactic Tool

Linguistic corpora are considered to be didactic educational tools, as they provide knowledge and assist in developing different skills and abilities, thus facilitating the environment cognition. Corpus as a didactic tool is an important and effective source to check linguistic hypotheses, to consolidate skills, and to assess the level of obtained knowledge. Once corpora are integrated in the educational process, they fulfil at least 5 didactic functions: 1) purely didactic (playing informative, adaptive, compensative, interactive, and motivative roles); 2) cognitive (direct cognizing of certain fragments of reality); 3) informative (providing information of various kinds / types); 4) formative (developing students’ cognitive abilities, their will, and feelings); 5) testing / checking [24]. All these functions used in one complex in the educational / pedagogical process make it possible to address various methodological issues, for example enhance students’ memory and the ability to think independently. Being a complex didactic tool, corpora not only present SL (source language) texts abundant in authentic material, but also provide their TL (target language) translations serving as models with ready solutions to be used in checking students’ abilities and in further professional activity. Using corpora allows for partial automatization of the educational process, making teachers free from a significant amount of mechanical / technical work.

It should also be stressed that a translator’s competence improves thanks to interaction between students and their teachers, with further reflection on obtained results as a logical method. In this respect Intan Safinaz Zainudin, and Norsimah Mat Awal describe the
intervention methodology (‘Cooperative Work Procedure’ by Gerding-Salas, 2000) reinforcing students’ learning of the translation techniques (*calque, borrowing, literal translation, transposition, modulation, functional equivalence, and adaptation* in Vinay and Darbelnet terminology, 1995) [25, p. 800]. Employment of this methodology confirms increase in “meta cognitive ability” [25, p. 804] level of students based on discussion of the above-mentioned techniques. Integration of such a methodology based on corpora data will provide additional evidence for relevant choice of a certain translation technique.

Currently the use of corpora in translation is seen from 2 perspectives: 1) learning to use corpora to translate, and 2) learning to translate using corpora. While N. Kübler is illustrating in her paper the first perspective [7], we consider both to be interconnected. Herewith we present the results of conjunction of corpora and translation procedures in teaching-learning future translators.

In Ukraine corpora technologies became the subject matter of research and further development about 10 years ago (N.P. Darchuk). However, it took till 2018 until those technologies were included in training syllabi for future translators. At National Pedagogical Dragomanov University a training course, dealing with (parallel) corpus use as a skill to be taught (“Corpora Linguistic Researches”) was introduced in that year, and at the same time a student research group was founded, named “Integration of corpus approach and lexicographic analysis into linguistic units studies in related languages”.

Nowadays we can encounter more studies focusing on the importance of corpora integration into teaching-learning process, for instance the works of N. Kübler, S.-M. Enikö, M. N. Ali. We do agree with the statement that “Using corpora can help the translator to acquire specialized knowledge in a subject area, to discover a specific domain, and to find linguistic information, which enables them to convey the intent of the source text” [7, p. 66], playing “different roles at different stages of the translation process” [7, p. 69]. N. Kübler distinguishes 3 stages that include the documentation phase, the translation and the revision phases involving a series of tasks. For example, to acquire useful information on certain terminology students must be aware of a corpus, its types, be able to formulate corpus queries and interpret the obtained results [7, p. 70].

The author of “Didactic Teaching Strategies for Successful Learning”, Szöke-Milinte Enikö, emphasizes that teaching-learning must deal with a strategy which has “a reproducible script / arc” [26, p. 57]. Following such a strategy means to be able to connect methods, tools, and organizational structures, i.e. to develop appropriate logically changed steps / stages covering not only the learning theory, but also motivating the learners and opening an opportunity for their autonomous learning [ibid].

Mayyadah Nazar Ali, following Newmark [27, p. 81], differentiates between translation methods (relating to whole texts) and procedures (applied for sentences and separate language units) [28, p. 142]. As translation methods he mentions word-for-word translation, literal, faithful, semantic, adaptive, free, idiomatic, and communicative ones [28, p. 142–143]. The researcher also gives a brief idea of translation problems encountered both by professional and future-to-be translators, namely linguistic, cultural, pragmatic, and text-specific [28, p. 143–145].

Making emphasis on the need of theoretical and practical linguistic knowledge, and cultural bilingual background of future translators, Mayyadah Nazar Ali finds it useful to follow 15 methodological steps (mentioned by Gerding-Salas) [28, p. 146–148]. Methodological step number 13 is of special interest for our research as it deals with “a metacognitive activity” (dealing with analysis of the used translation strategies and procedures) [28, p. 148], as it was already mentioned by Intan Safinaz Zainudin, and Norsimah Mat Awal [25]. The author also outlines 9 features of the teacher’s profile and 13 features of the students’ [28, p. 149–150] required in the translation domain. Number 7 of the teacher’s profile (“7. Capacity to foster search and research”) + 4 (“4. Adequate use of
translation procedures and strategies”) and 13 (“13. Acquaintance with translation software for MT and MT edition”, “MT” for ‘machine translation’) features of the students’ are directly connected with corpora involvement in teaching / learning of future translators.

The ability in translation can be improved only through realizing the most important factor for that, namely through adequate training and time [28, p. 151]. The teacher of translation in this case should follow specific methods enabling such implementation.

The course introduced by the Department of Applied Language Studies, Comparative Linguistics, and Translation of National Pedagogical Dragomanov University in the curriculum for future translators called “Corpora Linguistic Research” and development of a pilot parallel corpus project “English-Ukrainian Parallel Corpus” for specialty 035 Philology. 035.04 Germanic Languages and Literature (English as the first language, translation included) enabled the authors to get sufficient evidence of the successful employment of corpora. As a result, the corpus functioned as a didactic tool and the students took part in building the parallel texts, learnt to use the corpus to translate, as well as to translate using the corpus.

Here is a sample of how corpora technology can be implemented in class:

**Aim** – to teach students to define the type of translation model to render a certain meaning (shade of meaning) in a given context.

**Procedure**: The students performed tasks in 9 recommended steps / stages in training:

1) implementation of AntConc (a part of BNC) for the abstract / sentence alignment;
2) manual check after machine / mechanical alignment;
3) automatic register compiling of the chosen for research / analysis linguistic unit / units (a certain type / class of a pronoun, for instance) (with search function / option) + bold for these units;
4) manual check after mechanical compiling of the register based on the SL text (original);
5) employment of alignment results to detect the correspondences between original sentences (containing the linguistic units under analysis) and target sentences / abstracts;
6) manual detection (based on distributional and context analysis) and highlighting of the equivalents / correspondents in the target language sentences / abstract;
7) defining the type of translation strategy applied by a professional translator to render the given linguistic unit from SL text into TL text based on concordances [based on any digital / paper dictionary in free access (ideally, such dictionaries (at least one of them) should be connected to the SL text)];
8) making up models of typical pairs: SL linguistic unit → TL linguistic unit / units;
9) applying the knowledge of the established models in future professional activity under the similar conditions.

Following L. Chernovatyi as for 3 types of exercises involved in teaching translation (namely, preparing exercises, skill building, and ability development) [29, p. 217], we confirm that application of corpora provides abundance of data for detecting and identifying the most important elements of SL texts (preparing exercises); consolidating skills in lexicogrammatical shifts, transfer of stylistic meanings, change of grammatical meaning, reproducing meanings of word-combinations and idiomatic units, as well as establishing meanings of unknown lexemes (skills building exercises); external resources use, grounding of translation variant selection, adequate translation choice, translation strategy realization (abilities development exercises).

The following exercises for some of the above-mentioned steps have been practiced by the authors with the students of the Department of Applied Language Studies, Comparative Linguistics, and Translation:

- for step 1 of the procedure – “An Expert in AntConc employment”:
each student chooses any 3 texts (of 10 pages length each) and align abstract / sentences with AntConc;

− for step 3 – “A Champion in SL linguistic unit register compilation”:
  − all the students receive one and the same text but each one gets a different linguistic unit on the card. The champion / winner is the quickest one, who gets the register first;
  − for step 4 – “A Master of SL Tagging”:
  − all the students get 5 sentences of SL text and mark all the words in these sentences with special tags (given in 3.3 of this paper). The first who marks all the words correctly within the shortest time interval is called “A Master”;
  − for step 5 – “Quick eyes – mind – hands”:
    each student receives an excerpt with 20 SL units under analysis from parallel texts. A student who finds all the 20 SL units, highlights them in bold, detects and marks their correspondences in TL text first, is considered the winner.

Using this methodological procedure, the Department of Applied Language Studies, Comparative Linguistics, and Translation noticed a continuous improvement in the marks the graduates receive for their Masters’ theses. Thus, after completing the developed training course in “Corpora Linguistics Research” aimed at the formation of the future translators’ skills and consolidation of their abilities to work with a parallel corpus, the results for Masters’ theses defense (full-time students) showed “5” – 73 %; “4” – 19 %; “3” – 8 % (in 2018), and “5” – 95 %; “4” – 5 % (in 2019).

It means that a solid training of students in using corpora combined with further reflection on special techniques applied by professional translators gives much better outcomes than translation by just looking for equivalents. Besides the acquired knowledge, skills and abilities can be employed to any text genre, as well as any professional domain.

4. CONCLUSIONS AND PROSPECTS FOR FURTHER RESEARCH

Summarizing, the authors of this paper would like to stress that linguistic corpora technology (parallel corpora included) serves as a very efficient didactic tool in training future translators.

In particular, parallel corpora should be considered not only as a translator’s tool, but also as a tool for lexicography and translation studies, and as a tool for foreign languages and translation training.

I. Parallel Corpus as a didactic tool allows for developing a set of:

1) preparing exercises (with showing language phenomena in either of the languages under study / translation (SL / TL), and thus providing vast opportunities for the contexts);
2) skills building exercises (based on repeated study of the contexts of one and the same language unit in both languages);
3) exercises for abilities consolidation;
4) exercises for testing / checking the built skills and developed abilities of future translators.

II. Parallel Corpus as a translator’s tool enables:

1) choosing the best translation equivalent;
2) checking the contextual use of a particular unit or pattern in a natural, authentic environment with wide language data;
3) forming the set of translation models / equivalents;
4) compiling multilingual specialized dictionaries for particular translation needs;
5) improving translation quality and accuracy;
6) both creating new and improving the current approaches to machine translation technology.
All the above mentioned opens a variety of prospects for further research, work and integration of linguistic corpus technology in future translators’ training. We see the nearest prospect in developing three subsequent sets of preliminary, consolidating and testing exercises for future translators based on the parallel corpus constructed by the Department of Applied Language Studies, Comparative Linguistics, and Translation of National Pedagogical Dragomanov University.

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ЛІНГВІСТИЧНІ КОРПУСНІ ТЕХНОЛОГІЇ ЯК ДИДАКТИЧНИЙ ІНСТРУМЕНТ У НАВЧАННІ МАЙБУТНІХ ПЕРЕКЛАДАЧІВ В УНІВЕРСИТЕТІ

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Анотація. Антропокосмологічний вектор сучасної педагогіки та лінгвістики потребує розробки таких інструментів для майбутніх перекладачів, які дозволять якнайшвидше обробляти величезний обсяг інформації з виведенням автоматично визначених частот. З іншого боку, він вимагає мінімізації суб’єктивного впливу дослідника на отримані результати, відкриваючи можливості для виявлення та аналізу непоміченіших раніше мовних явищ. Лінгвістичні корпуси – це найсучасніша технологія, яка може досконало вирішити зазначену проблему, оскільки окреслює широкий спектр практичних та теоретичних пошукових варіантів, а також одночасно є дидактичним інструментом, що виконує суто дидактичу, когнітивну, інформативну, формуючу та контролючу функції. Отже, використання лінгвістичних корпусних технологій можна розглядати у двох перспективних площинах: у навчанні використовувати корпуси для перекладу та в навчанні перекладати з допомогою корпусів. Застосування корпусних технологій дозволяє підвищити як об’єктивність, так і надійність результатів, отриманих дослідниками під час обробки, і мовних даних зокрема. Використання корпусного підходу майбутніми перекладачами надає можливості вивчати будь-які мовні одиниці в різних мовленнівсях жанрах, уможливлюючи визначення специфіки вживання таких одиниць у різних типах дискурсу, а також різних контекстах у корпусі. Студенти – перекладачі можуть відшукувати дискретні лексичні / граматичні одиниці, спираючись на конкорданси, що демонструють їх функціонування в різних стилях та сферах використання. Крім того, паралельні корпуси забезпечують готовими рішеннями щодо вибору перекладацьких моделей за певних умов.

Мета цієї статті, зумовлена актуальністю поставленої проблеми, а також відсутністю паралельних корпусів в українській корпусній лінгвістиці. У статті для майбутніх перекладачів запропоновано розробку спеціальних методологічних процедур і вправ, спрямованих на оволодіння корпусними технологіями як дидактичним інструментом. Крім цього, описуються декілька технологічних рішень (Multiconcord, BNC, паралельний корпус), які забезпечують можливостями для практичного впровадження такого корпусного підходу, можуть суттєво покращити викладання для майбутніх перекладачів та поліпшити їх навчання. У висновках наголошується, що оволодіння такими лінгвістичними корпусними технологіями є дуже важливим для майбутніх перекладачів у навчанні, оскільки корпус є корисним і зручним дидактичним інструментом у їх професійній галузі та в практичній роботі дослідників. Подальші перспективи відбуваються в розробці подальшіх навчальних засобів для майбутніх перекладачів успішно оцінювати вплив інструментів на ранніх рівнях навчання.

Ключові слова: корпусні технології; дидактичний інструмент; паралельний корпус; методологічні процедури і вправи; навчання майбутніх перекладачів.

ЛІНГВІСТИЧЕСКІ КОРПУСНІ ТЕХНОЛОГІЇ КАК ДИДАКТИЧЕСКИЙ ИНСТРУМЕНТ В ОБУЧЕНИИ БУДУЩИХ ПЕРЕВОДЧИКОВ В УНИВЕРСИТЕТЕ

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Аннотация. Антропокосмологический вектор современной педагогики и лингвистики требует разработки таких инструментов для будущих переводчиков, которые позволяют максимально быстро обрабатывать огромные объемы информации с получением автоматически определяемых частот. С другой стороны, такой вектор требует минимизации субъективного влияния исследователя на полученные результаты, открывая возможности для выявления и анализа ранее незамеченных языковых явлений. Лингвистические корпуса представляют собой современную технологию, которая может идеально решить указанную проблему, поскольку открывает широкие возможности для практических и теоретических исследований, а также одновременно является дидактическим инструментом, который выполняет чisto дидактическую, когнитивную, информативную, формирующую и контролирующую функции. Следовательно, использование технологии лингвистических корпусов можно рассматривать в двух перспективных плоскостях – при обучении использовать корпуса для перевода и при обучении переводить с использованием корпусов. Применение корпусных технологий может повысить как объективность, так и достоверность результатов, которые исследователи получают при обработке, и языковых данных в том числе. Использование корпусного подхода будущими переводчиками даёт возможность изучать любые языковые единицы в разных речевых жанрах, позволяя выявлять специфику использования изучаемой языковой единицы в различных типах дискурса, а также в разных контекстах корпуса. Студенты – будущие переводчики могут отыскивать отдельные лексические / грамматические единицы на основе конкордансов, которые демонстрируют их функционирование в разных стилях и областях употребления. К тому же, параллельные корпуса предоставляют готовые решения по выбору переводческих моделей в конкретных условиях.
Цель данной статьи, обусловленная актуальностью поставленной проблемы, а также отсутствием параллельных корпусов в украинской корпусной лингвистике, включает разработку для будущих переводчиков специальных методологических процедур и упражнений, которые направлены на овладение корпусными технологиями как дидактическим инструментом. В статье также описывается несколько технологических решений (Multiconcord, BNC, параллельный корпус), которые могут существенно улучшить обучение будущих переводчиков, предоставляя возможности применения такого корпусного подхода на практике. В выводах подчеркивается, что освоение таких технологий лингвистических корпусов очень важно для будущих переводчиков в университете, поскольку корпус является полезным и удобным дидактическим инструментом в их профессиональной сфере и в практической работе исследователей. Дальнейшие перспективы мы видим в разработке серии упражнений на закрепление умений будущих переводчиков успешно обрабатывать данные различных корпусов.

Ключевые слова: корпусные технологии; дидактический инструмент; параллельный корпус; методологические процедуры и упражнения; обучение будущих переводчиков.

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