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Corpus approach to teaching Czech as a foreign language in university courses[1]

Abstract

The corpus approach to teaching Czech as a foreign language has not gained its stable place in academic language teaching practice in spite of growing interest in the last years. A comprehensive framework of corpus-based exercises usage and their influence on students' language development is still missing. This article aims to verify the data-driven learning (DDL) method in teaching Czech at university level. The analysis was based on an experiment in which an experimental group using the corpus approach was examined in comparison with a control group. The research was conducted in the form of a one-semester course for Polish students of Czech studies. The results have proven that thanks to DDL activities, students accomplished positive outcomes and, in several areas, had even better results in comparison with control group. They substantially improved in terms of grammatical gender, vocalisation of prepositions, and genitive singular and plural. For these three language phenomena concrete application of corpus exercises was presented. The study confirmed that the clear and systematic procedure presented in the corpus approach to teaching contributed to the fixation of taught material. Employment of DDL methods in university language courses has a chance to become a permanent means used by teachers and students in language discovery in the future.

1. Introduction

The data-driven learning (DDL) method was coined by Tim Johns in the early 1990s in his essential article describing the new approach to teaching English by using corpus concordance (Johns, 1991). In its initial phase, DDL was applied to teaching English but over time it has expanded to other languages such as French (Kerr, 2013), Spanish (Yao, 2019), German (Vyatkina, 2016) but also Slavic languages: Polish (Zasina, 2019b) and Czech. In the Czech Republic, the involvement of corpus methods in language teaching appeared in the first decade of XXI century (Lukšija, 2010, Osolsobě, 2010, Vališová, 2009). However, there has been no study that could comprehensively verify the application of corpus methods in teaching Czech at university level with emphasis on the usage of corpus exercises and their impact on students' progress. Hence, the present paper deals with a concrete application of corpus methods in academic teaching. It presents the results of an experiment conducted on university students of Czech studies who were taught with a corpus approach. The main objective was to explore the possibilities of introducing corpus methods into language teaching, to compare them with traditional teaching, and to verify whether the corpus exercises bring measurable advantages in the language development of students of Czech. It was also crucial to find out whether the corpus approach in teaching is possible in the everyday environment where students do not have a possibility to use computers in regular classrooms. The aim was to verify whether the corpus approach in teaching has a chance of achieving permanent application in language teaching either as a supplement or a separate course.

1.1. Research question

The experiment was realised during a semester stay within the Erasmus+ programme at Jagiellonian University in Cracow (JU) thanks to the helpfulness of the Institute of Slavonic Studies.[2] JU was selected due to a large number of students studying Czech studies in one year, what made possible to establish two groups for comparison.

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[1] The article is based on chapter 6 of my doctoral thesis (Zasina, 2019a); it was modified for the purpose of this publication.

The other reason was a homogeneity of students in terms of nationality, educational background, and representation of comparable language level of Czech.[3]

The experiment was loosely inspired by similar research provided on a group of French native speakers in primary school who have a problem with the spelling of homophonic expressions (Leray & Tyne, 2016). The authors of the study worked with two groups; one was taught using corpus methods and the other using a traditional one. The results of the study indicated that the corpus method can make a meaningful contribution to teaching and help students to better understand problematic language phenomena.

This research aims to answer two main questions:

– whether the corpus approach improves the efficiency of language teaching,
– whether the proposed procedure for explaining the problematic language phenomenon (i.e. a. problem identification, b. solving the problem using corpus methods, c. result interpretation) is functional in practice.

The study emphasises corpus-based exercises which had a direct influence on students' results. They are described in detail in subsection 2.3 with focus on problematical issue of grammatical gender, vocalisation of preposition, and genitive singular and plural. Section 3 presents the testing procedure and the results of experiment. Section 4 discusses possible implications and enlargement of the study. The last section concludes the essential results of the research.

2. Method, data, and corpus exercises

This section zooms in on the methodology that was used to ensure suitable conditions for conducting the experiment. It describes the source of teaching materials, the course content, and the corpus data used in corpus-based exercises. Finally, it presents the corpus-based exercises.

2.1. Methodology

In order to achieve the set objectives, the experiment was based on the principle of analysing two groups: experimental and control.[4] For both groups the same content of teaching programme based on the previously performed analysis of learners' errors in the learner corpus CzeSL-SGT (Zasina, 2019a) was determined. However, the corpus group worked with corpus material (most often in the printed version of concordance) in addition to textbook material (for more details see section 3.2). For the purpose of the experiment, a special semester course *Grammar and Lexical Exercises for Bohemists* was created. It was offered as an optional course in the summer semester of the academic year 2017/2018. Classes were held once a week with a standard length of 90 minutes. During this period 14 seminars were conducted for both groups. The communication language was exclusively Czech. The experiment began in late February and ended in mid-June, lasting 4 months, which is an usual semester length.

The course was compulsorily recommended to all first-year students and all 22 students enrolled for the course based on this recommendation. Students enrolled in a particular group according to their choice and time preference, even though an even distribution was suggested in advance. Initially, there were 13 students in group A taught traditionally and 9 in group B taught with the corpus approach. During the semester, however, 7 students decided to abandon their studies.[5] In

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[3] The Czech language enjoys great interest in Poland, which is probably supported by the favourable attitude of Poles towards Czechs who are the most popular nationality in Poland. According to the Public Opinion Research Centre (CBOS), Czechs ranked first as the most popular nationality in 2019 (Omyła-Rudzka, 2019).

[4] In this work I interchangeably use terms for group A *control/traditional* group and for group B *experimental/corpus* group.

[5] Of course, the personal reasons for interrupting of all students are unknown, but some have mentioned illness or changes in life plans as the cause. In the case of students studying two field simultaneously, their decision was due to the excessive demands of their studies.

the end, 11 students from group A and 4 from group B completed the first year. This result is not ideal for comparison, yet it was possible to obtain some indications regarding the effectiveness and specifics of the corpus approach to teaching and propose corpus exercises (see section 2.3).

All students, who participated in the research, were of Polish nationality with Polish as their mother tongue, roughly in the same age-group of 19 to 24 years (average 20 years old), and all of them came into contact with Czech at university for the very first time. None of them had Czech relatives. They had completed the first semester of Czech studies and their estimated level of the Czech language at the beginning of the experiment was A2 according to CEFR[6]. In terms of gender, women prevailed as is usually the case in the faculties of arts.

Both groups were taught by the same teacher (author of this work), with many years of practice in foreign language teaching (Czech, Polish) and with corpus background, to avoid any possible influence of the teacher's personality on the teaching and to adhere to the specified course content. The advantage of the teacher was that his mother tongue was Polish therefore he could have anticipated any possible language difficulties of his students. At the same time, he used to be a Czech language student and went through a similar learning process. This allowed him to evaluate the situation from both perspectives, as a teacher and as well a student.

Unquestionably, other factors such as gender, individual student intelligence, social situation etc. may have an influence on the teaching process. However, bearing in mind the position of the Czech language in the world, it is hardly possible to ensure such conditions as English can afford with an incomparably higher number of learners. Due to a limited number of overseas students of Czech, it was necessary to ignore gender balance of groups or considering the level of in-

telligence and social situation of students, which would require additional independent research. Moreover, it was essential to conduct the research in the students' natural environment, i.e. at their university, not to artificially assemble a group of students for the purpose of the experiment. I tried to the best of my knowledge to minimise the various factors affecting the teaching process.

In order to compare results of both groups, students had to write an entry test in the first class to evaluate their initial knowledge and then pass a final test in the last class to verify their knowledge gained during the experiment. Students also took two control tests during the semester. The students' results were converted to percentage that were compared to calculate the improvement rate. The method of test result comparison was described in-depth in section 3.2.

2.2. Data

A previous analysis of learners' errors based on learner corpus (Zasina, 2019a) was used to identify the most problematic areas of non-native Czech. It was a starting point for setting up the teaching programme. It was also necessary to become acquainted with the study program at JU to ensure continuity of Czech lessons. Several Czech textbooks for foreigners were utilised to prepare teaching materials. The basis was a series of *Česky krok za krokem* textbooks, i.e. *Česky krok za krokem 1* (Holá, 2016) and *Česky krok za krokem 2* (Holá & Bořilová, 2009). In addition, the following sources were chosen as supplementary materials:

– *Communicative Czech: Elementary Czech* (Rešková & Pintarová, 2009),
– *Cvičebnice z české mluvnice pro cizince* (Trnková, 2003),
– *Cvičebnice z morfologie se zaměřením na flexi přejatých slov* (Bednaříková, 2011)
– *Česky krok za krokem 2. Pracovní sešit 1–10* (Malá, 2012),
– *Česky krok za krokem 2. Pracovní sešit 11–20* (Malá, 2016),
– *Čeština Express 3* (Holá & Bořilová, 2014),

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[6] Common European Framework of Reference for Languages: Learning, Teaching, Assessment (https://www.coe.int/en/web/common-european-framework-reference-languages).

- *Čeština pro cizince I* (Jalková, 1998),
- *Čeština pro cizince II* (Ledajaksová & Rozkopalová, 1997),
- *Čeština pro cizince IV* (Junková, 1998),
- *Čeština pro život* (Nekovařová, 2006),
- *Gramatika českého jazyka pro cizince. Pro mírně pokročilé studenty* (Krejčová, 2013),
- *Gramatika českého jazyka pro cizince. Pro začátečníky*. (Vlčková, 2015),
- *Mluvnice současné češtiny 1* (Cvrček et al., 2010),
- *Přehled české gramatiky* (Kupka, 2009),
- *Textová cvičebnice českého jazyka pro zahraniční studenty. Díl II* (Trnková, 2004).

The teaching material was also supplemented by sources from the Wikipedia portal and by own exercises. In addition to the basic content of non-corpus exercises, the experimental group benefited from a large inventory of the author's corpus exercises (chosen exercises are described in detail in section 2.3). These materials were elaborated into handouts which students worked with during the whole course for 13 seminars.

The teaching programme was based on the following information:
- the most common errors of students in writings based on a learner corpus (Zasina, 2019a),
- teacher's experience with teaching Polish students studying Czech,
- teaching programme set by the local university (JU).

The organization of individual seminars resulted from the sorting of topics based on the parts of speech. Therefore, it was first crucial to expand the students' vocabulary for creating simple sentences (nouns, adjectives, verbs) and then to practice creating more complex phrases (pronouns, adverbs, prepositions). More demanding material was planned for the first half of the semester, when students usually show more interest and attention. Consequently, easier lexical exercises were included in the last seminars. The teaching schedule was also slightly modified based on the results of the entry test that revealed the most problematic areas. The course focussed strongly on the gram-

matical but also lexical layer; lexical exercises also appeared during the grammar-orientated part of the course. The course schedule is presented in the table below.

Table 1. Schedule of the semester course *Grammar and Lexical Exercises for Bohemists* at Jagiellonian University

WEEK	LEVEL	TOPIC	MATERIAL
1.	introduction	introduction, entry test	word meaning, vowel length, interference errors
2.	grammar	noun	gender (*tramvaj, židle* ect.), nominative plural of animate masculine (Npl Ma) vs. accusative plural of animate masculine (Apl Ma) nouns
3.			vowel length in word base and its alternations (*peníze, přátelé*)
4.			genitive singular (Gsg) and plural (Gpl),
5.			local singular (Lsg) and plural (Lpl)
6.		deverbative	formation and differences in vowel length between endings -*ání* and -*aní*, instrumental singular (Isg)
7.		adjective	soft and hard adjectives and their declension, nominalised adjectives (*dovolená*)
8.		verb	conjugation (*mluvit, dělat*), conjugation (-*ovat* an irregular verbs)
9.		past participle	Revision of past tense, past participle forming, vowel length issue
10.		pronoun	pronoun *mně/mě*, pronoun *můj/svůj*
11.		adverbs and prepositions	diacritics in adverbs, vocalisation of prepositions
12.	lexis	stylistic differences	written vs. spoken Czech
13.	test	final test	
14.	lexis	idioms, collocations	comparisons character attributes, idioms, collocations

The course subject was the same for both groups but differed in design. The content of the course presented here arose mainly from the needs of the students. It focussed on the most common problems, which were mainly: grammatical cases of nouns, adjectives and pronouns, problems with quantity in verb conjugation, as well as quantity in past participles and deverbatives, distinguishing pronouns *mně*/*mě* and *můj*/*svůj*, formation of adverbs, vocalisation of prepositions, stylistic differences between written and spoken Czech, comparison describing character attributes, collocations, and idioms.

The different approach to teaching both groups mainly lay in the method applied. The control group was taught in deductive way – grammatical rules were first explained to students, then examples were presented, and finally students practised acquired knowledge in drill exercises. For instance, the teacher first explained the rules of using grammatical gender in Czech (which endings are the most typical for masculine, feminine, and neuter nouns), then introduced some examples from the coursebook, finally students applied the rules in exercises. The weakness of this approach is that students are not forced to think by themselves because the grammatical rules are given by teacher. There is no space for self-interpretation and creative thinking. Students acquire terminology and rules and only repeat what was shown by a teacher. Finally, they can practise the new grammar in exercises that do not represent an authentic language because they were prepared by coursebook's authors. On the other hand, the inductive method applied in experimental group represents exactly an opposite approach – students first analyse authentic language examples based on corpus evidence, then have a space to interpret the data and formulate basic rules. Students are involved in "discovering" rules from the beginning and actively participate in discussing and formulating grammatical rules. Finally, based on the acquired knowledge they can practise grammar in exercises. We could simply compare corpus approach to teaching to a situation where we provide tools to build a house instead of giving a house; each of us building their own house will have a closer relation to it than people who get it without any en-

gagement. We will also know all good sides of our building. Thanks to greater involvement in the work on the house, we will obtain information about all its nooks and crannies. The same applies to acquiring grammatical rules – when students put more effort into analysing corpus data, they benefit from the chance to remember grammatical rules more easily.

To compile corpus-based exercises for the experimental group, the corpus of written contemporary Czech SYN2015 (Křen et al., 2015, 2016) was used. It is a collection of fiction, non-fiction, and newspapers and magazines representing the language of Czech native speakers. Exercises often make use of concordances provided by corpus interface KonText (Machálek, 2014) developed in the Institute of the Czech National Corpus.

2.3. Corpus exercises

This subsection presents the inductive teaching method applied in concrete corpus-based exercises used within the experimental group. The traditional group is neglected here as DDL methods were not tested on it. This part focusses on three areas that had a positive impact on students' outcomes, i.e. grammatical gender, vocalisation of prepositions, and genitive singular and plural.

2.3.1. Grammatical gender

Grammatical gender represents a specific error area especially for students with Slavic mother tongue as similar words (or even the same) can have a different gender. For instance, a tramway in Russian is a masculine but in Czech is a feminine noun. Different grammatical gender appears in words of foreign origin (en. *stained glass*, cs. *vitráž* (f), pl. *witraż* (m), ru. *витраж* (m)) but in Slavic origin words as well (en. *urine*, cs. *moč* (f), pl. *mocz* (m), ru. *моча* (f)).

The first exercise concerning grammatical gender is based on concordance. The task is that students follow concordance lines and based on a context they need to identify the correct grammatical gender. The

purpose is not to read the whole sentences but probable collocations that indicate a gender. Mostly to find the right answer, students have to look for adjectives combining with chosen nouns. In Exercise 1 students deal with five chosen nouns: *kancelář* 'office', *židle* 'chair', *výprodej* 'sale', *tříšť*[7] 'slush', and *snídaně* 'breakfast'. This task was understandable to Polish students at level A2 and they had no problems with solving it. They simply determined the gender of nouns based on the surrounding context. However, in the case of students with non-Slavic L1 it is necessary to consider providing more obvious examples.

Exercise 1. Podívejte se na konkordanci a na základě pozorování těchto dat určete rod slov: *kancelář*, *židle*.

díky tomu uzavřela hned v březnu čtyřmiliónovou smlouvu s advokátní	**kanceláří**	Rowan Legal , která měla pro radnici vybrat nejvhodnější řešení
že hlavním lákadlem snímku bude postava organizátorky nové „cestovní	**kancelář**	" v podání Heleny Růžičkové . To je také pravda
něj to navíc nebyl Dospiva , kdo řídil projekt sázkové	**kancelář**	Fortuna , ale úplně jiný partner Penty . V souvislosti
demokratickou předsedkyni sněmovny Nancy Pelosiovou , jak dětem ve své	**kanceláři**	vysvětluje , že to , , co děláme tady v
Patnáct let po založení Federovy společnosti mě při odchodu z	**kanceláře**	zastavila dívka . Vypadala podivně v té beztvaré róbě ,
městské části . Shepherd's Bush byl samý výprodej , sázková	**kancelář**	a trafika . Holland Park zase samá drahá květinářství a
a různých papírů . Jako by si tam Asad zřídil	**kancelář**	pro volební kampaň na úřad prezidenta . Seděly tam tři

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přetřel si rukou špičatou bradu . , Nehoupej se na	**židli**	, " napomenula ho matka , aniž vzhlédla . Doktor
vybavený bar , k němuž židle patří . Výškově nastavitelná	**židle**	Alicante . Cena 999 Kč (Kika) . Židle
. " Jane , ohromená novou informací , se na	**židli**	prudce zaklonila . Jimmy a Bradley se ve stejné době
daleko od svých k nářadí , k strojům , k	**židlím**	, k dlažbě , k lidem přikovaných srdcí . Učinil
ničeho nic strčil do kapsy . Otočil se i s	**židlí**	k Martinovi . " Dáte nám opci na svou příští
JÍDELNÍ ŽIDLE 3 v 1 PLANET (KinderKraft) Vysoká	**židle**	se stolečkem , samostatně lze využít židli i stoleček ,
pak mě vybídne , abych si sednul , na stejnou	**židli**	jako vždycky . Má na sobě černé tričko , přes

The second task is an example of a *hands-on*[8] exercise, i.e. students solve a task directly using a computer. In case they do not have a com-

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[7] Even though the lexeme *tříšť* is unusual, it was chosen because it is not a false friend. Therefore, there is no possibility for interference of grammatical gender, which is probable in the case of lexemes such as *křeč* 'spasm', *náplas*t 'plaster', *garáž* 'garage' having Polish masculine counterparts: *skurcz*, *plaster*, *garaž*.

[8] Evaluation of *hands-on* (on computer) and *hands-off* (on paper) exercises in DDL carries out Boulton (2012).

puter available in the classroom, it is possible to project all steps onto a screen. Students can follow teacher's instructions and respond to the displayed material. The goal of the exercise was to find a grammatical gender of nouns ending in *-ář* and answer if it is feasible to determine which gender predominates. The corpus SYN2015 and CQL query [tag="N.*" & lemma=".+ář"] were used to solve the problem. Obviously, students obtain many hits therefore it was required to filter them. Subsequently, there a positive filter was used with search span limited to position from 0 to 0 and query type CQL. To insert a tag, the tag builder was used to choose a *feminine gender* marked at the third position. After evaluating the results, *a frequency distribution of lemmas was applied* to find out the total number of feminine lexemes ending in *-ář*. The outcome revealed that only four lexemes: *tvář* 'face', *kancelář* 'office', *zář* 'glow' and *svatozář* 'halo' are feminine. In the next step students examined frequency distribution of other genders and revealed that there are no such neuter nouns and the rest belong to masculine gender. Based on this information, students have to remember only 4 feminine nouns in order to determine without any difficulty the gender of nouns ending in -ář that may also be masculine nouns.

Exercise 2. Odpovězte na otázku na základě dat z korpusu SYN2015. Jaký rod mají substantiva, která končí na *-ář*? Lze nějak určit, který gramatický rod převažuje? Která slova si musíte zapamatovat, abyste ovládal/a tuto látku?

	Filtr	lemma	Freq	
1	p / n	tvář	35529	
2	p / n	kancelář	12103	
3	p / n	svatozář	281	
4	p / n	zář	221	

2.3.3. Vocalisation of prepositions

Vocalisation of prepositions represents the next difficulty for foreign students. As Kučera (1984, 225) states it is a very irregular phenomenon and different codifications from the beginning of the 20th century pointed to various aspects, however, fluctuations and individual differences remained in principle unexplained. Knowledge about the patterns of vocalisation is brought by Nilsson's (2014) extensive corpus study that compares vocalisation in three Slavic languages: Polish, Slovak and Czech. The author concludes:

The majority of the prepositions consist of syllabic prepositions which only vocalise in collocations with certain words. Such collocations are lexicalised and not predictable on phonological grounds. […]

The four (two in Polish) asyllabic prepositions are most often vocalised on phonological grounds, but to a smaller extent they also vocalise, just like the syllabic prepositions, in collocations with individual word forms, and such collocations must be listed in the lexicon. (p. 331)

It demonstrates how collocational behaviour is crucial in choosing the right word form and sheds light on the causes of students' problems. Hence, the task in vocalisation of prepositions presents the most frequent vocalised prepositions on basis of SYN2015 corpus. Vocalisation occurs most often in case of one-letter (asyllabic) prepositions *v*, *s*, *z*, *k*. Exercise provides a corpus evidence of the most common collocates of these four prepositions. The goal was to find examples of lexemes that collocate with each of four prepositions; these three lexemes are: *svůj* 'my', *který* 'who; which', and *všechen* 'all'.

Table 3. List of vocalised prepositions based on SYN2015 corpus

No	Preposition	Frequency
1	**v**	395952
2	**s**	161731
3	**z**	149674
4	**k**	91202
5	bez	4759
6	od	4511
7	před	3460
8	skrz	3113
9	nad	1580
10	pod	453
11	přes	279
12	poblíž	21
13	zpod	4

Most common collocates:

ve *své, svém, skutečnosti, kterém, svých, městě, všech, světě, výši, chvíli, škole, středu*;

se *mnou, svým, svými, všemi, dvěma, kterými, sebou, třemi, stejnými, ženou, slovy*;

ze *všech, strany, sebe, svých, dvou, mě, tří, země, kterého, dne, školy, života, společnosti*;

ke *mně, dveřím, svému, konci, stolu, kterému, všemu, změně, vzniku, zdi, zvýšení, dnu*.

Exercise 3. Na základě výše uvedených údajů z korpusu doplňte chybějící slova do níže uvedené věty.

Před lexémy: ……..……, ……..……, a …………..… se vyskytuje vokalizovaná neakcentovaná předložka *v*, *s*, *z*, lub *k*.

2.3.4. Genitive singular and plural

Grammatical cases represent a problematical area both for non-Slavic and Slavic learners. For the former it is mostly the unknown grammatical category, therefore the meaning of particular cases needs to be clearly explained to master their usage (Janda & Clancy, 2006). For the latter similarities between Slavic languages imply a negative transfer that causes most of the case usage problems. Nevertheless, for both learner groups is essential to master the most common word forms instead of the whole paradigm (Janda & Tyers, 2018). There-

fore, the next exercise deals with a concordance showing the authentic instances of language use of genitive case. Exercise 4 is divided into 4 points in which students have concordances available for particular genders. The goal is to determinate gender, case, and number.

When students are familiar with concordance, they have no problems with solving an exercise and they do not require any additional time. A teacher assists students in the task by asking them to identify the case endings for each gender. All information is listed by teacher on the blackboard. The teacher directs the students to the conclusion that soft nouns always have the ending -*e* in Gsg regardless of gender. Based on the evidence on the blackboard, students fill in the Exercise 5 blind table explaining rules of creating Gsg.

Exercise 4. Podívej se na konkordanci a řekněte v jakém rodě, pádě a čísle se klíčová slova (KWIC) vykytují.

a) rod: ...., pád: ...., číslo: ....

potkat : s takovým patosem a vážností hrát o osudu	**člověka**	. Moc mě těší , že jsem dostal Thálii za
Jonassenem na průskum terénu . S cílem překonat šířkový rekord	**kapitána**	Larsena směřovali po mořském ledu na jihosápad , u Nordenskjöld
Pokud by tomu tak mělo být , odstoupím z funkce	**prezidenta**	klubu . Bylo by škoda , kdyby se extraliga v
zaměstnanci budou pracovat slušně a efektivně – a to od	**starosty**	až po řadové úředníky . Hlavním motivem ke kandidatuře v
svou alternativu v Mac OS X , byť od jiného	**výrobce**	. Největší komplikací tedy je naučit se takovcu aplikaci efektivně
vedl až k tomu , že jsou členové strany modrého	**ptáka**	dnes vnímáni spíše jako marginální činitelé politické scény . ,
dvou důvodů . Jednak je v centru dvě stanice od	**Anděla**	, tedy s dokonalou dostupností , a jednak má okna
svůj 34 . ročník , podeváté se současně konal Memoriál	**Jindry**	Fiedlera . Pořadatelství se po letech opět ujali prachatičtí atleti

Exercise 5. Podívejte se ještě jednou na konkordance ve cvičení 4 a na základě informací z konkordancí doplňte tabulku. Jaké koncovky má analyzovaný pád?

slovní druh / rod	Substantivum		

The last exercise is in the form of concordance as well. In the Exercises 6, students have to determine the gender and the ending of genitive plural. The task helps students to become familiar with the most common endings of Gpl and to find out general rules that in Gpl:

– masculine nouns have the ending -*ů*,
– feminine nouns have the ending -*í* or zero ending,
– neuter nouns have the ending -*í* or zero ending.

Exercise 6. Podívejte se na konkordance z korpusu SYN2015, jaké koncovky má v jednotlivých rodech genitiv plurálu? Podívejte se na konkordance z korpusu SYN2015, jaké koncovky má v jednotlivých rodech genitiv plurálu?

a) rod: ...., koncovka: ....

Provázek a/nebo gumičky Průběh 1 . Na jaře zasaď semena	**rajčat**	do záhonu nebo do květináče . Drž se přitom návodu
výprava skončila nezdarem . Motýl se posadil na řetěz u	**vrat**	a vší silou zatáhl svými ručičkami . Byla to veliká
, že pokud je dostatečně zpevním , vyvaruju se svalových	**zranění**	. " A jak vypadal jeho denní režim ? ,
do které na vyznačených místech vytvořte otvory pro umístění čtyř	**oken**	2 a vstupních dveří 3 . Zpracovanou spodní část rozhledny
a joystickem . Pod kabinou se pak otáčí dvojice řídicích	**kol**	. Druhou dvojici - hnací , najdete na zádi u
Získá se spálením rozčtvrcených tuleních mláďat a paviáních jater a	**srdcí**	. Kouř ďáblíků je nutné uzavřít do azbestového sudu .
z temnoty . Stvořeny byly z masa , kostí a	**písmen**	a vypadaly jako kresby , které vyskočily z opravdu zlého
a čtverečkovaný papír , nýbrž dva kufříky , jednoduché modely	**letadel**	a sadu kolíčků na označení zásahů . Hra je vhodná
Trenér Brendan Rodgers si liboval : , Viděl jsem několik	**videí**	, jak hrál , když mu bylo dvanáct nebo třináct
. Ta se hodnotí známkami 1 až 10 podle vícera	**kritérií**	- důležitý je odraz , let a dopad . Aby
batyskaf americké námořnictvo , které chtělo zkoumat i nejhlubší místa	**moří**	(a také případné potopené vojenské ponorky ruských) .

3. Experiment

This section describes the evaluation of the experiment carried out on two groups of students. Firstly, it illustrates the testing procedure. Secondly, it focusses on the test results and measures the improvement rate of the corpus group in comparison with the traditional one.

3.1. Testing

Students wrote four tests: entry, 1st control, 2nd control, and final. The entry and final tests were compiled according to the same rules, while the control tests contain selected exercises; thus, in this paper

the attention is put on entry and final test to evaluate results concerning topics that were taught using corpus methods.

Students had to write an entry test in the first class at the beginning of the experiment to measure their initial knowledge. The test content was based on the material covered in the first semester and its level was estimated at A2. To measure the improvement of the traditional and corpus groups and to compare their outcomes, students took a final test that copied the content of the entry test but using different examples. The time needed to write a test was 45 minutes, but students had 60 minutes for writing so as not to be under time pressure. The test was divided into two separate parts: lexical and grammatical.[9] The lexical part consisted of the following eight exercises:

– Exercise 1 – answering basic questions,
– Exercise 2 – writing of numerals,
– Exercise 3 – grammatical gender,
– Exercise 4 – translation from Polish into Czech and reverse,
– Exercise 5 – vocabulary,
– Exercise 6 – asking questions
– Exercise 7 – stylistic variants,
– Exercise 8 – collocability.

Students could obtain a maximum of 41.5 points for this part and needed approximately 15 minutes to solve it.

The grammatical part was much longer and consisted of the following fourteen exercises:

– Exercise 1 – verbs *být* (*to be*) and *mít* (*to have*),
– Exercise 2 – conjugation in present tense,
– Exercise 3 – accusative singular and plural of nouns and adjectives,
– Exercise 4 – nominative and accusative plural of masculine animate nouns,
– Exercise 5 – genitive singular and plural,
– Exercise 6 – instrumental singular,
– Exercise 7 – diacritics,
– Exercise 8 – soft and hard adjectives,
– Exercise 9 – past tense,
– Exercise 10 – pronoun *mně*/*mě*,
– Exercise 11 – pronoun *můj*/*svůj*,
– Exercise 12 – vocalisation of prepositions,
– Exercise 13 – personal pronouns,
– Exercise 14 – simple feature tense.

Students could obtain a maximum of 105.5 points for this part and needed approximately 30 minutes to solve it.

It was possible to obtain a maximum of 147 points from the whole test. Group A scored an average of 92 points (62.76%) and group B an average of 93,3 points (63.48 %); the initial level of both groups was therefore comparable (difference of 0.72%). The final test revealed a slight difference between the groups; group A scored an average of 124.53 points (84.62%) and group B an average of 127,19 points (86.52%). The corpus group was almost 2% better. However, not all language phenomena covered by the entry/final test were discussed during the seminar using corpus methods.[10] Therefore it was necessary to measure improvement only on language phenomena that were introduced to students using corpus methods. The following subsection presents in detail how the improvement was calculated and provides a comparison of both groups.

3.2. Results

The essence of this research was to determine the effectiveness of the corpus approach. Therefore, the analysis focusses on comparison of language phenomena that were taught by corpus methods, i.e. grammatical gender, stylistic variants, collocability, conjugation in

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[9] The whole test may be seen in my dissertation thesis (Zasina, 2019a, pp. 204–212).

[10] There were two main reasons: firstly, the originally planned course content was modified during the semester, and secondly, during the semester it was found that some planned corpus exercises were not feasible without direct access to computers.

present tense, nominalised adjectives, nominative and accusative plural of masculine animate nouns, genitive singular and plural, instrumental singular, diacritics, soft and hard adjectives, past tense, vocalisation of prepositions, and personal pronouns. The entry and final tests were the subject of comparison. First, the points result of each student and each exercise were converted into percent. Secondly, the entry results of each exercise for each student were subtracted from the results of each exercise for each student in the final test. Thanks to that, the improvement of each exercise was calculated for each student. For example, when a student scored 3 point from 4 in the entry test and they scored 4 points in the same exercise in the final test, their improvement was 25%. Thirdly, the improvement rate of each exercise for each student was averaged for each exercise of the whole group. Finally, the average improvement rate of each exercises was compared between the corpus and traditional groups. The average improvement of the traditional group for each exercise was subtracted from the results of the corpus group; the difference between these two groups represents the improvement of experimental group expressed in percentage points (see Table 2). When the number is larger, then the improvement of corpus group is larger. When the improvement is negative, it means the traditional group achieved better results.

Table 2. Improvement of the corpus group in comparison with the traditional group in exercises taught during the semester by corpus methods

Test Part	Ex. no	Exercise	Improvement
Lexical	3.	Grammatical gender	34.09
	7.	Stylistic variants	4.09
	8.	Collocability	7.32
Grammatical	2.	Conjugation in present tense	-7.27
	3. b	Nominalised adjectives	2.27
	4.	N and Apl Ma	-16.34
	5.	Genitive sg and pl	12.26

	6.	Instrumental sg	4.55
	7.	Diacritics	-8.70
	8.	Soft and hard Adjectives	12.22
	9.	Past tense	6.93
	12.	Vocalisation of prepositions	17.27
	13.	Personal pronouns	11.59

The experimental group significantly improved its results in the following areas: grammatical gender, vocalisation of prepositions, genitive singular and plural, soft and hard adjectives, personal pronouns. In addition, we observe a moderate improvement over the traditional group in collocability and past tense. The improvement is only slight in the case of instrumental singular, stylistic variants, and nominalised adjectives. Conversely, the traditional group achieved higher improvement in three exercises (nominative and accusative plural masculine animate nouns, diacritics, and present tense). However, it does not mean that the corpus group did not improve at all in these exercises, but the improvement was comparatively lower. This state explains the tendency of both groups in the three mentioned tasks (see Table 3).

Table 3. Tendency of the traditional and corpus groups based on the entry and final tests

	Traditional		Corpus	
	Entry	Final	Entry	Final
Conjugation in present tense	95 %	94 %	96 %	86 %
N and Apl Ma	7 %	76 %	16 %	67 %
Diacritics	64 %	84 %	66 %	76 %

Concerning present tense conjugation there was a slight deterioration in both groups. It is probably caused by deterioration in writing long vowels in stem-forming suffixes. 0.25 points were subtracted for each missing length. However, we would expect an improvement in the corpus group in this regard, since we took into account the occur-

rence of long vowels in verb stem-forming suffixes solving corpus exercises. This implies that writing long vowels is not one of the simplest phenomena. More attention should be paid to this phenomenon to figure out an even more effective way of teaching this problematic area.

Another exercise concerning diacritic immediately encounters the same problem. Although improvement in both groups is seen, this tendency is weaker in the experimental group. Probably the chosen corpus exercises were not appropriate to explain the vowel quantity properly. It would certainly be worth devoting more time to exploring this phenomenon in detail and making teaching methods more efficient. The difficulty with using vowel length is undoubtedly due to the fact that students do not often combine the written form of a lexeme with its phonetic counterpart; if students pronounce a long vowel shortly, they tend to write it shortly as well and vice versa (Zasina, 2018, p. 285). Therefore, it might be preferable to include long vowel exercises not only in writing training, but also in phonetic exercises during which the students would be able to link long vowel writing with its correct pronunciation. From the experience of a teacher and a former student in one person, I have to admit that this issue is not given enough attention in Czech studies abroad, where in some cases students do not even have a separate seminar of phonetics and pronunciation is only discussed marginally during practical language teaching courses.

In the case of the last exercise on nominative and accusative plural of animate masculine nouns, both groups improved their results. However, the control group improved by as much as 16.34 percentage points compared to the experimental one. There may be two reasons for this. The topic was discussed in the second seminar and for the first time in a corpus way, which was not easy for the students. Initially, the students were somewhat confused by the new method and there was no immediate understanding of the corpus approach. They needed to get used to it, which could adversely affect their results. The inclusion of N and Apl Ma in the course resulted from the programme of the field determined by the local university. However, it is possible to present the topic in a simplified form and to adapt the assignment accordingly. It is always better for students to start with simpler corpus exercises to get used to the new approach. At the same time by presenting it in the most interesting way will encourage students to continue working with this method.

3.3. Summary

The experiment was carried out only on a small number of students (especially in the corpus group) and therefore its value is limited by the size of the analysed sample, which as the author I am aware of. However, I believe that the introduction of DDL methods has a wide potential for the future, as it contributes substantially to improvements, particularly in certain areas. Moreover, it represents a varied offering of language courses and certainly has a chance of application in modern teaching.

4. Discussion

The study indicates that employing DDL method in university language courses has a positive effect on development of students' language skills. The proposed procedure for explaining the problematic language phenomenon consisting of three steps (i.e. problem identification, b. solving the problem using corpus methods, c. result interpretation) is functional in practice. Moreover, the research confirms that it is possible to introduce the corpus approach to teaching in a regular classroom without any need for using a computer. In addition, the concrete corpus exercises presented, which helped students to substantially improved their outcomes, describe step by step a new method and illustrate how to solve both lexical and morphological difficulties of students.

My findings are commensurate with other studies (Alshaar,& AbuSeileek 2013; Bouton, Cobb, 2017; Liontou, 2020, Szudarski, 2020) confirming the usefulness of DDL methods in language teaching. Moreover, the present experiment brings new insights into using

hands-off corpus exercises in teaching Czech in university course. Although it was not possible to use computers and work with corpus tools directly, students achieved satisfactory results. In most of the problematic areas the corpus group was even better than the traditional one. It has confirmed that on paper exercises may be an adequate substitution for computer exercises, which is an invaluable advantage in the absence of computer room. This conclusion can be supported by Boulton's analysis that has confirmed that *hands-off* and *hands-on* DDL exercises are both valuable in language teaching and "printed materials do have a role to play, especially in producing immediate results with learners at lower levels of proficiency and with limited time available" (2012, p. 164). Due to the limited time of the experiment (one semester) and the proficiency level of students, printed exercises were ultimately a good choice. Their suitable form of preparation guides students through a problematic issue towards an explanation. The success of the corpus exercises may be seen in clear procedure of inductive thinking as well. Students (with teacher assistance) have the opportunity to analyse language on their own and develop their individual language skills in a form that is appropriate for each learner.

In contrast to previous studies (Osolsobě, Vališová, 2012; Vališová, 2011; Vališová, 2012), this study is the first attempt in DDL teaching of Czech as a foreign language to compare control and experimental groups. It extends previous findings by providing comprehension of the use of DDL in university language teaching. As Bouton and Cobb's (2017, p. 363) results show, are compared outcomes within experimental group more often; they analyse 50 samples of comparison between control and experimental groups and 71 within the experimental group. The approach presented here clearly demonstrates the development and impact of DDL methods. Additionally, the results fit with the statement that corpus classroom activities are an interesting supplementary teaching material enriching traditional methods. The experiment proves that corpus exercises can be use with students of lower proficiency (A2 level), which is in line with Boul-

ton's (2010) findings. However, previous study of Vališová (2011) conducted on Czech points out that corpus exercises only succeed in teaching advanced students. The reasons for this conclusion might be a) at this time corpus tools were less user-friendly than nowadays, what could influence students' reception of the DDL method; b) chosen concordance lines contained too difficult vocabulary that is not appropriated for lower levels. Furthermore, the study contributes to the development of corpus exercises giving concrete examples and their systematic description and at the same time responds to the needs of teachers without DDL knowledge (cf. Römer, 2009).

The generalisability of the results is limited by the small sample of students, which is especially difficult to guarantee considering group homogeneity. Undoubtedly the study should be replicated to a greater number of students using the same parameters to ensure further comparison. Nevertheless, the experiment was not far from the ideal because comparison of other studies shows that the average numbers of students in each group is slightly above 20 (Bouton & Cobb, 2017, p. 367). What is more, there is a need for exploratory studies that could indicate a further focus and be basis of more profound analysis as well (cf. Yoon, Jo 2014). It would also be crucial to consider the long-term effect of DDL in longitudinal analysis, which might result in a more visible impact of corpus approach to teaching. However, one semester course was appropriate to measure the impact of DDL activities. Additionally, students with DDL teaching initially need more time to get to use to new method. What might also influence the unclear difference between control and experimental group is the fact that this research measures many grammatical and lexical phenomena in one place. Focusing on one issue in depth could bring more distinct outcomes.

Further analysis is needed to establish more appropriate corpus exercises in using long Czech vowels. Especially the compilation of a source of corpus exercises in the form of workbook is required that could be used by students and teachers. Thanks to the findings of this study, it is possible to design a workbook for learners of Czech as a foreign language that meets the needs of both students and teachers.

5. Conclusion

The aim of the study was to analyse the impact of the corpus approach on the effectiveness of language teaching. The experiment has confirmed that DDL achieves satisfactory outcomes and in several areas the corpus approach has even better results in comparison with traditional methods. In addition, the investigation confirms that the clear and systematic procedure presented in the corpus approach to teaching contributes to the fixation of processed material. It can be undoubtedly stated that the corpus approach in teaching has a chance of gaining permanent application in language teaching either as a supplementary or a separate course. It offers diverse possibilities which may be used in language courses and enrich students' knowledge and develop their language skills.

The application of the corpus approach in direct academic teaching has never been analysed previously in terms of functionality and impact on students learning Czech as a foreign language. Thus, the present research contributes to incorporation of corpus methods into language learning and strives for popularisation of DDL among students and teachers. It will be valuable if this study inspires other researchers and teachers and helps to gradually introduce corpus methods into regular language teaching[11].

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