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Tajnica: Diana TOMIĆ

Lektorica: Katarina VARENICA

Izvršna tajnica: Ana VIDOVIC ZORIĆ

Korektorica: Marica ŽIVKO

Design ovitka: Zlatko ŠIMUNOVIĆ

Grafičko uređenje i prijelom

Jordan BIĆANIĆ, Odsjek za fonetiku, Filozofski fakultet, Zagreb

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Adresa uredništva

Filozofski fakultet, Odsjek za fonetiku, I. Lučića 3, 10 000 Zagreb, Hrvatska

Telefoni: 385 (0)1 409 23 74, 385 (0)1 409 20 97, 385 (0)1 409 20 98

E-mail: gvarosan@ffzg.hr, dtomic@ffzg.hr, anvidovi@ffzg.hr

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Jelena Kuvač Kraljević, Gordana Hržica

jkuvac@erf.hr, gordana.hrzica@erf.unizg.hr

Faculty of Education and Rehabilitation Sciences, University of Zagreb
Croatia

Lana Kologranić Belić

lana.kologranic@gmail.com

Polyclinic for the Rehabilitation of Listening and Speech SUVAG, Zagreb
Croatia

Croatian Corpus of Non-Professional Written Language – Typical speakers and speakers with language disorders

Summary

Corpora, as annotated archives of human communication, are objective, reliable resources for language analysis. Here we present the corpus of non-professional written Croatian, based on 1-year sampling of writings by typical speakers and speakers with language disorders. This corpus provides a unique resource because it samples language used by non-professionals, in contrast to corpora based on texts by professional writers (such as journalists, scholars or novelists) sampled over more than a century. In addition, our corpus contains written language from typical and impaired speakers sampled under identical conditions, allowing detailed analyses of language use. This paper describes the language tasks (essay, story generation, non-formal and formal letter and dictation) used to elicit text production, and procedures for sampling and annotation used to generate the corpus. Its usefulness is illustrated through language productivity analyses of transcripts of different genres produced by writers of different age and language status. This corpus may prove useful for the analysis of writing skills in typical and language-impaired speakers of Croatian.

Keywords: Croatian Corpus of Non-Professional Written Language, written language, genres, language disorders

1. INTRODUCTION

A corpus is a body of written text or transcribed speech that can serve as an objective, reliable basis for linguistic analysis and description (Kennedy, 2014). The history of text analysis can be traced back to the 13th century, when the Christian Bible was manually indexed, and particularly impressive growth in the development of language corpora has occurred in the past 50 years. During this time, various types of corpora have been developed in different languages. They have been used in the range of areas, such as language teaching and learning, forensic linguistics, translation studies, sociolinguistics, and pragmatics (see McCarthy & O'Keeffe, 2010).

If a corpus is to serve as a source of evidence for linguistic descriptions and analyses of human communicative ability, it should linguistically describe a speaker's language performance (Leech, 1992, p. 107). Linguistic competence and performance are too complex to be described adequately by introspection and elicitation alone (Svartvik, 1992). Therefore, corpus analysis should be seen as complementary to the other methods of language analyses, including experiments. Indeed, a corpus is an empirical basis for testing principles of linguistic theories (Kennedy, 2014).

Corpora can be compiled for many different purposes, and the purpose helps determine corpus size, style and content. *General* or *core* corpora consist of a body of texts that enable linguists to address questions related to vocabulary, grammar or discourse structure. Examples are the British National Corpus (www.natcorp.ox.ac.uk/corpus/index.xml) or Croatian National Corpus (Tadić, 2009). *Specialized* corpora, in contrast, are designed with specific purposes in mind. Croatian examples are the Croatian Child Language Corpus (Kovačević, 2002), which provides information about the specificity of child language development; the Croatian Adult Spoken Language Corpus (HrAL; Kuvač Kraljević & Hržica, 2016), which provides information about spoken grammar and lexicon in adulthood; and the Croatian Discourse Corpus of Speakers with Aphasia (CroDA; Kuvač Kraljević, Hržica, & Lice, 2017), which supports analyses of spoken discourse skills and error production of adult speakers with aphasia. All three corpora are available within TalkBank (<https://talkbank.org>), a large database of spoken-language corpora covering different languages (MacWhinney, 2002; MacWhinney, Fromm, Forbes, & Holland, 2011; MacWhinney & Wagner, 2010).

Most corpora of written language are based on carefully selected texts produced mostly by professional writers. Corpora of professional writing provide much useful

information but cannot be representative of everyday written language use, such as in emails, letters, notes, essays, and business correspondence. Spoken corpora are much more prone to include non-professional speakers, but there is a great discrepancy in size of written and spoken corpora. Raso and Mello (2014) warn that moving towards big data in corpus linguistics does not necessarily fill a gap in linguistic resources i.e., does not provide linguists with the means to study spoken language. Similar can be said for non-professional writing. Such resources are rare, and often restricted to small number of words and to limited number of genres. For example, Schler, Koppel, Argamon, and Pennebaker (2006) have collected relatively large corpus of 140 million words, but it is restricted to blogs. Same stands for Enron Email Data Corpus (Federal Energy Regulatory Commission, 2012).

The aim of this paper is to present what appears to be the specialized written corpus in Croatian that consists of diverse texts produced by ordinary, non-professional typical speakers and speakers with different types of language disorders. The biggest advantage of this corpus, in comparison to corpora based on the blog, twitter, web and other online language sources which also contain a large amounts of non-professional written texts, is the control of participants and the prescribed procedure of sampling a written language. The novelty of this corpus is that it provides insights into the writing skills on the productive level of Croatians who have at least four years of education, i.e., who have been exposed to the formal learning of writing. We describe in detail the principles guiding the sampling of written texts as to facilitate creation of similar corpora in other languages. We also provide examples of analysis of essays and narratives produced by typical individuals and those with language disorders illustrating some of the questions that can be addressed with this unique type of corpus.

1.1. A specialized corpus of non-professional written language

Corpus linguistics has long been biased in favour of professional writing. Typically, large national corpora claiming to be representative of a language sample professional writing from books, newspapers and academic sources, although there are some exceptions (McEnery & Wilson, 2001). The current trend in the building of web-based corpora has allowed increasing inclusion of non-professional texts, but web-based corpora require additional skills to access the non-professional writing therein.

To ensure representativeness, a general corpus may strive to sample a broad range of genres. For example, the spoken part of the Cambridge English Corpus (<https://www.cambridge.es/en/about-us/cambridge-english-corpus>) contains samples of everyday conversation, radio broadcasts and TV programs, presentations, speeches, meetings and lectures. A specialized corpus, in contrast, may strive to sample a demographically diverse range of speakers or writers, including various ages, socioeconomic statuses and geographic locations (e.g., Carter, 1997, 1998, 1999; Kamandulytė-Merfeldienė, 2017; Kuvač Kraljević & Hržica, 2016). This was, in fact, our concept in construction of the present corpus of non-professional written Croatian. Participants covered a broad age range, from 10 years until old age, and came from different Croatian counties. The rationale behind the choice of lower age is the fact that in this period writing becomes automatized, text generation includes more mature discourse structures in a variety of literary genres, and finally posttranslation reviewing/revising and advanced preplanning emerge (Berninger, Fuller, & Whitaker, 1996).

During the creation of this corpus, we developed a protocol that defined discourse elicitation tasks and the methods to be used for the data analysis which is similar to protocols for other corpora (e.g., MacWhinney et al., 2011). Our protocol stipulated six groups of tasks representing different writing styles (descriptive, expository, narrative, and letter) and different levels of formality. The content of the six groups of tasks differed slightly across participant age groups, but style and formality were constant.

2. WRITERS WITH LANGUAGE DISORDERS

Persons with language disorders (e.g., Developmental Language Disorder (DLD), dyslexia, aphasia) are a specific group of non-professional speakers and writers. All language disorders can be classified into two basic groups according to the time of their occurrence and aetiology. Some disorders emerge in early or middle childhood and some are acquired in adulthood, i.e., in the period when spoken language is already automatized (Trauner & Nass, 2017). Some disorders, such as aphasia or traumatic brain injury, have a clear aetiology, while others are vaguer considering the cause of their occurrence. Children with DLD (formerly known as Specific Language

Impairment, SLI) show a late onset of language in childhood and have difficulties comprehending and producing verbal information. Approximately 7.6% of children show difficulties in acquisition of their mother tongue even when their cognitive functioning is typical, hearing is intact and language environment is adequate (Reed, 2005; Tomblin et al., 1997). The prevalence of DLD drives interest in understanding affected individuals' language performance, which can strongly influence skills mastery and overall academic achievement. Poor spoken language skills can be a trigger for poor academic achievement, poor reading and writing. Children whose reading achievement falls significantly below the expected level with respect to their chronological age, measured intelligence, and age-appropriate education, will be recognized as children with dyslexia (WHO, 2012). The disturbance in reading and writing significantly interferes with academic achievement or with any activity of daily living that requires those skills. Aphasia, in contrast, is one of the most prevalent acquired language disorders, occurring as a result of stroke or brain injury. Aphasia destroys communication skills, so it can have a devastating effect on psychological well-being and participation in life. According to the American Speech-Language-Hearing Association (ASHA; https://www.asha.org/practice-portal/clinical-topics/aphasia/#collapse_1), 1 in 250 people live with aphasia. According to the National Institute of Neurological Disorders and Stroke (NINDS; <https://www.ninds.nih.gov/About>), traumatic brain injury (hereafter referred to as TBI), a form of acquired brain injury, occurs when a sudden trauma causes damage to the brain. TBI can result when the head suddenly and violently hits an object, or when an object pierces the skull and enters brain tissue.

The increasing incidence of language disorders in society has led to an increase in the number of clinical corpora. TalkBank (<https://talkbank.org>), a large database of spoken-language corpora in different languages, includes several databases of clinical corpora. For example, the largest database of spoken language samples produced by persons with acquired language disorder is AphasiaBank (MacWhinney et al., 2011), based primarily on individuals whose aphasia resulted from a stroke that was verified through neuroimaging or definitive medical diagnosis. Established in 2007, AphasiaBank contains narrative, procedural, personal, and descriptive discourse from 290 persons with aphasia, as well as 190 control participants (MacWhinney & Fromm, 2016). This and other specialized clinical corpora can contribute to planning

therapy as well as developing language tests and software solutions for augmentative and alternative communication.

All types of language disorders have a particularly negative influence on writing skills: affected individuals produce text much more slowly and with lower phonological accuracy than those with typical language skills, and the texts tend to be shorter and to feature simpler sentences with less diverse vocabulary (Bishop & Clarkson, 2003; Dockrell, Lindsay, & Connelly, 2009). The language processing problems of affected individuals mean that they may make different types of errors than writers with typical language skills (e.g., Ramus, 2014; Salmelin, Service, Kiesilä, Uutela, & Salonen, 1996).

Despite the increasing availability of clinical corpora, the literature on writing skills of people with language disorders is not so extensive (Zourou, Ecale, Magnan, & Sanchez, 2010). Detailed insights are lacking for most languages, including Croatian. This likely reflects, in part, the relatively small number of specialized corpora and their small size. For example, there are two corpora of texts produced by speakers with dyslexia; one in Spanish contains only approximately 1,000 tokens (Rello, Baeza-Yates, Sagginon, & Pedler, 2012) and the second in English 12,000 tokens (Pedler, 2007).

The present Croatian Corpus of Non-Professional Written Language includes data from people diagnosed with various types of language disorders, including Developmental Language Disorder, dyslexia, aphasia and TBI. Producing texts to answer to specific language tasks requires integration of a number of language skills on different language levels. By analysing such text, we can better understand language deficits of people with language disorders. Corpus also includes individuals with typical language status, allowing detailed comparisons of the two populations sampled under comparable conditions. We expect that people with language disorders would show lower productivity across the various writing genres.

3. CREATING A CROATIAN CORPUS OF NON-PROFESSIONAL WRITTEN LANGUAGE

3.1. Participants

The corpus comprises written texts from 395 participants (Table 1), all of whom were native speakers of Croatian and 267 of whom were recruited from the

following institutions where they were receiving therapy for language disorders: Polyclinic for the Rehabilitation of Listening and Speech SUVAG in Zagreb (N = 140) and Osijek (N = 14), the Clinical Hospital in Split (N = 12), the Clinical Hospital in Osijek (N = 22), the Clinical Hospital Sveti Duh in Zagreb (N = 7), the General Hospital in Požega (N = 7), the Dr. Josip Benčević General Hospital in Slavonski Brod (N = 4), the Special Hospital for Medical Rehabilitation in Krapinske Toplice (N = 36), the Polyclinic for Rehabilitation of People with Developmental Disorders in Split (N = 14) and the Specialized Hospital for Medical Rehabilitation in Lipik (N = 5). These individuals were recruited in 2015 and 2016. Participants with language disorders who have already been assigned one of the following diagnosis codes F80.1, F80.2, F80.9, F81.0, F81.1, F81.3, R47.0, S00.0, S01.0 and S06 (WHO, 2012) and who have already been involved in the speech and language therapy, were included in the study. Clinical decision on the presence of a language disorder was based on the results of at least two formal tests (e.g., Peabody Picture Vocabulary Test, Dunn et al., 2009 and Test for Reception of Grammar, Bishop, Kuvač Kraljević, Hržica, Kovačević, & Kologranić Belić, 2014), and authentic assessment measures. In parallel, individuals with typical language skills were recruited through public calls in Split (N = 23), Zagreb (N = 81), Krapina County (N = 16) and Slavonia County (Požega, Slavonski Brod, Osijek and Lipik, N = 14). Participants were selected randomly, but they had to meet several inclusion criteria, reported by their parents, teachers, or themselves: (a) they had no hearing impairments; (b) spoke Croatian as their primary language; (c) did not report any developmental problems such as cognitive and language or difficulties with attention and (d) had no history of special education services. Participants, whose age ranged from 10 to 80 years (mean age 52), were recruited from various locations all over Croatia in order to ensure the representativeness of the sample. Indeed, both groups of participants included speakers of all three dialects (kajkavian, chakavian and shtokavian).

Developmental Language Disorder (DLD) and dyslexia were more prevalent among the children and adolescents in the sample than among the adults, probably reflecting that clinical care and support for such disorders tends to occur earlier in life, despite the fact that the disorders are lifelong. Acquired language disorders such as aphasia and TBI, conversely, were more prevalent among adults in the sample, reflecting the fact that such disorders usually occur later in life.

Table 1. Data about participants**Tablica 1.** Podatci o ispitanicima

Age group / Dobna skupina			
	Male / Muški	Female / Ženski	Total / Ukupno
Children / Djeca	111	59	170
Adolescents / Adolescenti	18	16	34
Adults / Odrasli	78	113	191
Total / Ukupno	207	188	395
Language status / Jezični status			
	Male / Muški	Female / Ženski	Total / Ukupno
Typical / Tipičan	51	83	134
DLD / Razvojni jezični poremećaj (RJP)	32	21	53
Other LD known aetiology / Jezični poremećaji ostalih etiologija	5	3	8
Dyslexia / Disleksija	76	34	110
TBI / Traumatska ozljeda mozga (TOM)	19	7	26
Aphasia / Afazija	34	30	64
Total / Ukupno	217	178	395

3.2. Discourse elicitation tasks

Language samples were collected over a period of eight months (from September 2015 to April 2016) by speech and language therapists. This short period of data collection makes the corpus synchronous. In the case of participants with language disorders, the therapists collected the data in the clinical setting. In the case of participants with typical language status, equivalent data were collected in a non-clinical setting (e.g., at home, at work). Tasks were designed to elicit two modes of discourse: description and narration (both storytelling and recounts – see Heath, 1986). Additionally, the formality of the tasks was varied, as it has been shown that it affects text properties (Biber, 1988, 2006). During one or more sessions, participants completed 10 tasks

(Table 2): two essays, two sets of questions, two stories (picture prompts), two non-formal letters, two formal letters and two dictations. Participants received precise instructions for each task, and writing had no time limit. Examiners prompted participants when they failed to complete tasks. These prompts, as well as the original instructions, were carefully scripted beforehand.

Since the goal was to capture non-professional written language, the tasks were designed to resemble typical language use (e.g., description of a familiar person, personal narratives). Both descriptions and narratives are regularly used by speakers of different age (e.g., Dipper & Pritchard, 2017). Most of the used tasks were the same for all age groups (e.g., "describe your home"), but two of them were slightly adjusted for different age groups. First, the formal letter-writing task involved different age-adjusted instructions, such as writing an invitation to a playdate (if the subject was a child), inviting a friend over (for adolescents), or scheduling a business meeting (if the subject was an adult). Second, a task of writing a non-formal letter included writing a postcard either to grandparents (if the subject was a child), or to family or friends (if the subject was an adolescent or an adult).

Overall, the appropriateness of tasks for a particular age group was established by: (1) taking into consideration the speaker's experience (e.g., everyday situations a speaker encounters), (2) using prompts already established as relevant and appropriate for eliciting discourse (such as sets of pictures from *Expression, reception and recall of narrative instrument* (Bishop, 2004) used in a number of studies of child and adult language).

Dictation consisted of a paragraph which was read aloud from a book. For children and adolescents, book paragraphs from the age-appropriate obligatory school reading lists were used (see Table 2). For adults, the selected texts included classic works of Croatian literature.

The tasks also differed in format depending on the age group. For adolescents and adults, each written sample consisted of 10 handwritten tasks and two computer-based writing tasks (one set of answers to questions and one dictation). For children, none of the tasks were computer-based. Children wrote one dictation, while adults wrote two.

If a participant became tired, he or she could continue writing in the next session. Most participants completed all 10 writing tasks within a single session lasting 40 minutes. Some participants, primarily older adults with language disorders, required two sessions in order to complete all tasks.

Table 2. Writing tasks
Tablica 2. Pisani zadatci

	Writing task / Pisani zadatak	Theme / Tema	Writing style / Stil pisanja
1	Essays (two) / Eseji (dva)	a) My best friend b) My home	Descriptive
2	Responses to questions (two sets) / Odgovori na pitanja (dva seta)	a) Questions 1: 1) What do you do during the weekend? 2) How do you celebrate your birthday? 3) What is your favourite school subject and why? / What do you like about your job (current or previous)? 4) What do you see through the window? 5) What are you wearing today? b) Questions 2: 1) What are your hobbies? 2) What do you do during recess? / What do you do during the Christmas holidays? 3) What is your favourite TV show and why? 4) Describe your favourite professor. / Describe your favourite actor. 5) What do you see through the window of your room?	Expository / Descriptive
3	Stories (two) / Priče (dvije)	a) Beach Story* b) Fish Story*	Narrative
4	Non-formal letters (two) / Neformalno pismo (dva)	a) Letter to friend b) Postcard to grandparents / Postcard to family or friends	Non-formal discourse
5	Formal messages (two) / Formalna poruka (dvije)	a) Invitation to playdate / meeting b) Cancelling training / lecture / meeting	Formal discourse
6	Dictations (one for children, two for adolescents and adults) / Diktati (jedan za djecu, dva za adolescente i odrasle)	Full list of books used for dictations: Hrvoje Hitrec: <i>Eko Eko</i> (10 years), Sanja Pilić: <i>Mrvice iz dnevnog boravka</i> (11), Melita Rundek: <i>Psimu ulaz zabranjen</i> (12), Damir Miloš: <i>Bijeli klaun</i> (13), Višnja Stahuljak: <i>Don od Tromedě</i> (14), Vjenceslav Novak: <i>U glib</i> (adolescents), Pavao Pavličić: <i>Dobri duh Zagreba</i> (adolescents), Miroslav Krleža; <i>Povratak Filipa Latinovicza</i> (adults), Dinko Šimunović: <i>Muljika</i> (adults)	Narrative default discourse

* Participant wrote stories based on sets of pictures from *Expression, reception and recall of narrative instrument* (Bishop, 2004).

In all, 395 participants produced more than half a million tokens in more than 41,000 utterances (Table 3).

Table 3. Basic corpus information

Tablica 3. Osnovne informacije o korpusu

	Children / Djeca		Adolescents / Adolescenti		Adults / Odrasli		Total / Ukupno	
	N	No. of tokens / Broj pojavnica	N	No. of tokens / Broj pojavnica	N	No. of tokens / Broj pojavnica	N	No. of tokens / Broj pojavnica
Typical language status / Tipičan jezični status	17	24,538	15	26,745	101	205,100	133	356,383
Dyslexia / Disleksija	95	98,528	8	12,656	7	12,771	110	123,955
Developmental Language Disorder / Razvojni jezični poremećaj	48	52,010	3	3,422	2	2,997	53	123,955
Other language disorders known aetiology / Jezični poremećaji ostalih etiologija	8	9,161	0	0	0	0	8	9,161
Broca's aphasia / Brokina afazija	1	316	0	0	42	56,891	43	57,207
Wernicke's aphasia / Wernickeova afazija	0	0	0	0	1	949	1	949
Anomic aphasia / Anomija	0	0	0	0	7	12,194	7	12,194
Other types of aphasia / Ostale vrste afazija	0	0	0	0	14	20,945	14	20,945
Traumatic brain injury / Traumatska ozljeda mozga	0	0	8	14,441	18	24,549	26	38,990
Total / Ukupno	169	184,553	34	57,264	192	336,396	395	743,739

3.3. Annotation

The corpus was annotated using the morphosyntactic annotations from version 4 of the MULTTEXT-East Morphosyntactic Specifications for Croatian (Ljubešić, 2013). Due to its specificities (non-professional corpus, clinical corpus), the corpus was in a large part annotated manually. However, inflectional lexicon for Croatian (hrLex – Ljubešić, 2019; Ljubešić, Klubička, Agić, & Jazbec, 2016) was used to facilitate manual annotation. Annotators were provided with possible options for annotations retrieved from hrLex, but they could also add their own. Manual annotation consisted of three phases. First, surface forms were corrected. This included correction of tokens: tokens could be divided into two or merged if word boundaries were displaced. Second, manual morphosyntactic annotation was performed. Third, errors were marked according to one of 12 types (Štefanec, Ljubešić, & Kuvač Kraljević, 2016). Annotators were experienced in text normalization and lemmatization. In order to retain the characteristics of the language used by participants, annotators were instructed to keep non-standard language features such as regionalisms or slang. Only unintentional or orthographic errors were corrected.

4. ILLUSTRATIVE ANALYSES

To illustrate how transcripts from the Croatian Corpus of Non-Professional Written Language can be applied, we performed one analysis from a developmental perspective and one from a clinical perspective. It is important here to emphasize that analyses will not be comprehensive, since the idea of this paper is only to provide an example of how and for what purpose the corpus can be used.

Using exploratory and confirmatory factor analyses, Puranik, Lombardino, and Altmann (2008) and Wagner et al. (2011) demonstrated that four factors can be conceptualized from written texts: productivity (e.g., total number of words, number of different words, total number of sentences), complexity (e.g., mean length of T- or C-unit or clausal density), accuracy (the proportion of grammatical and spelling errors to the total number of sentences), and mechanics (number of capitalization and punctuation errors). These four factors were part of the translation component of the writing process, i.e., the phase of production of written text and should be considered when evaluating writing (Koutsoftas & Gray, 2012). In the two analyses that follow, we applied productivity measures, and in the second we applied additional basic analysis of accuracy and mechanical errors.

These analyses will be conducted on two different genres: on essays and narratives. Research shows that the differences among participants in writing ability are ensured by different genres, as well as by familiarity with the topic being written about (Hržica, Košutar, & Kramarić, 2019). Therefore, the essay topic was defined by the writers or participants themselves while in narration it was defined by researchers. The analyses presented here are just a few made possible by the corpus.

4.1. Language productivity from a developmental perspective

Both analyses – the average numbers of tokens (words) and average numbers of utterances generated during the task – were based on language productivity, which can reliably assess language proficiency (Tilstra & McMaster, 2007). The number of tokens and utterances in essays were calculated for a randomly selected subset of participants with typical language development from three i.e., four age groups (Table 4). The number of tokens increased with age up to 60 years of age, after which the number decreased. This decline is biologically determined: elderly, especially starting around 70 years old, have difficulties in producing spoken and written language (Kemper, 1994; Rao, 2015). Children, adolescents and young adults produced similar numbers of utterances, and, as Table 4 shows, elderly produced the fewest utterances.

Table 4. Average numbers of tokens and utterances in different age groups

Tablica 4. Prosječan broj pojavnica i iskaza za različite dobne skupine

Main age ranges in corpus / Raspon dobi u korpusu	Specific analysed age groups / Analizirane dobne skupine	N	Average number of tokens / Prosječan broj pojavnica	Average number of utterances / Prosječan broj iskaza
< 15	10–12	10	124.4	10.8
16–20	17–19	10	179.8	11.0
> 21	30–32	10	177.7	10.8
	60–70	10	116.7	8.8

This developmental analysis illustrates how the corpus data can support studies into, for example, normative values for language measures in different age ranges and age-related differences such as in types of sentences, conjunctions, as well as temporal

and referential anaphora. The data allow analysis of linguistic improvements in style, content, and grammar of written text during elementary school; such studies would need to control for how demanding the school curriculum is.

4.2. Language productivity, accuracy and errors of mechanics from a clinical perspective

The two written narratives produced by young writers with Developmental Language Disorder (DLD) and older writers with Broca's aphasia will be contrasted here. DLD is diagnosed when the language skills of a child without any known biomedical condition, such as autism spectrum disorder or cognitive deficit, are persistently below the level expected for the child's age. This disorder interferes with the child's ability to communicate effectively with other people and strongly affects academic achievement (Bishop, 1999). Aphasia, in contrast, occurs later in life as a result of a clear neurological disturbance, usually brain stroke, and it affects reading, writing, speaking and language comprehension (Hegde, 2006). These two types of disorders manifest with similar language symptomatology, yet they usually occur at quite different ages and have quite different causes.

Table 5. Average numbers of tokens and utterances in participants with DLD and aphasia

Tablica 5. Prosječan broj pojavnica i iskaza kod ispitanika s RJP-om i afazijom

Group / Skupina	N	Age (yrs.) range / Raspon dobi (god.)	Average number of tokens / Prosječan broj pojavnica	Average number of utterances / Prosječan broj iskaza
Children with Developmental Language Disorder (DLD) / Djeca s razvojnim jezičnim poremećajem (RJP)	41	11–15	122.9	12.3
Adults with Broca's aphasia / Odrasli s Brokinom afazijom	45	> 21	118.8	10.9

Language productivity analysis revealed that both groups produced similar number of tokens and utterances (Table 5). Based on the analysis of narrative text from the same corpus, Kuvač Kraljević, Matić, and Olujić Tomazin (in press) determined that adolescents and adults with typical language skills produce approximately 180 words in their narratives which is significantly more than their peers with language disorders. This is in line with other studies that claim that adolescents with DLD and adults with aphasia produce significantly shorter texts than TD adolescents and adults regardless the language orthography (e.g., Mackie & Dockrell, 2004; Marini, Andreetta, del Tin, & Carlomagno, 2011).

The relationship between productivity and many other measures of written language output is confirmed. For example, it is well known that productivity correlates with accuracy – the more children or adults with typical language status write, they make less spelling and grammatical errors (Dockrell, Lindsay, Connelly, & Mackie, 2007), and produce more informative stories (Koutsoftas & Gray, 2012). Preliminary analysis of texts produced by adolescents with DLD and adults with Broca's aphasia showed that both groups produce most often simple errors that differ from intended word by only one single grapheme, such as omission and addition of grapheme, multiple errors that differ in more than one grapheme, such as omission of syllables (Rello et al., 2012). In our sample adolescents with DLD produced 48% and persons with aphasia 40% of these errors. Further, they have problem with the rules of capitalizations and punctuation, such as substitution of upper- and lower-case letters, diacritical marks omission, commas, and dots (26% in DLD group and 14% in aphasia). The latter types of errors are those that Koutsoftas and Gray (2012) call mechanic errors. Further, accuracy with special focus on grammatical errors such as inappropriate inflection, copula omission or duplication, stringing sentences, and inappropriate word order revealed that adults with aphasia have more problems with stringing sentences than children with DLD. Problems with noun inflection, verb changes and omission of copula are common in both groups. Problem with retrieving the correct lexical item is a more prominent feature of texts written by adults with aphasia. Consequently, persons with aphasia more often produce neologisms. Deeper analyses of different types of errors based on this corpus can be found in Luketin (2015), Kuvač Kraljević et al. (in press), and Štefanec et al. (2016). Besides the productivity and accuracy, the corpus data allows comparisons of macro-organization, informativeness, text quality, morphological complexity and other language characteristics between different types of disorders.

5. CONCLUSION

The aim of this study was to present the first Croatian Corpus of Non-Professional Written Language, and it is only Croatian corpus that includes language samples from persons with language disorders. Such clinical corpora are less common, despite the increasing amount of data reported in the clinical literature. The corpus described here offers a unique language resource, annotated on multiple levels, for diverse lines of research, for which we provide here only a sampling.

While many believe that written corpora are easier to develop than spoken ones, creating a reliable, representative written corpus means taking into account several factors, which we have tried to describe in our case. It is important to note that non-professional writers differ regarding their age, gender, socioeconomic status and other characteristics. Therefore, it would be interesting to examine similarities and differences in writing skill with respect to these demographic features in further analyses. Also, written texts differ according to genre and level of formality. Such questions are important when planning language sampling for written corpora. We believe that this corpus has an adequate size to pose numerous research questions, since we were careful to include diverse written genres and a broad age range of participants who were speakers of all three major dialects of the language. Specialized corpora are much smaller than core corpora because they tend to focus on specific areas of language to respond to narrow clinical or pedagogical needs (Nelson, 2010).

This corpus has already been used in several studies aimed to illuminate the skill of writing in the Croatian language (Hržica et al., 2019; Štefanec et al., 2016), as well as for the development of automatic tools for morphosyntactic description, namely lemmatizers (Ljubešić & Štefanec, 2000a, 2000b) and models for morphosyntactic annotation (Ljubešić & Štefanec, 2000c, 2000d).

In the future, this corpus will be expanded with transcripts based on new genres produced by new groups of writers. Also, the plan is to network it with the European Research Infrastructure for Language Resources and Technology (www.clarin.eu). In this way, the corpus will be publicly available and it will fulfil the criteria of a "FAIR" resource that is findable, accessible, interoperable and reusable for fundamental and clinical research in writing skills and language processing.

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Jelena Kuvač Kraljević, Gordana Hržica

jkuvac@erf.hr, gordana.hrzica@erf.unizg.hr

Edukacijsko-rehabilitacijski fakultet Sveučilišta u Zagrebu
Hrvatska

Lana Kologranić Belić

lana.kologranic@gmail.com

Poliklinika za rehabilitaciju slušanja i govora SUVAG, Zagreb
Hrvatska

Hrvatski korpus neprofesionalnoga pisanog jezika osoba s jezičnim poremećajima i osoba bez jezičnih poremećaja**Sažetak**

Korpsi, anotirani arhivi ljudske komunikacije, objektivan su i pouzdan izvor materijala za jezičnu analizu. U ovom se radu predstavlja hrvatski korpus neprofesionalnoga pisanog jezika nastao tijekom jednogodišnjega prikupljanja pisanih uzoraka osoba s jezičnim poremećajima i osoba bez jezičnih poremećaja. Ovaj korpus ima jedinstvenu vrijednost zbog jezičnih uzoraka neprofesionalaca, u usporedbi s korpusima temeljenima na tekstovima profesionalnih autora (npr. novinara, znanstvenika ili pisaca) koji obuhvaćaju uzorke stare više od stoljeća. K tome, ovaj korpus uključuje jezične uzorke osoba s jezičnim poremećajima i jezične uzorke osoba bez jezičnih poremećaja prikupljene u istim uvjetima, što otvara prostor za detaljnu analizu jezične uporabe. U radu se opisuju jezični zadatci (esej, pisanje priče, neformalno i formalno pismo te diktat) korišteni za proizvodnju teksta te procedure uzorkovanja i anotacije korištene za stvaranje korpusa. Korisnost je ilustrirana putem analiza jezične proizvodnje, tj. transkriptata različitih žanrova koje su proizveli autori različite dobi, odnosno jezičnoga statusa. Opisani korpus može biti koristan za analizu jezičnih vještina govornika hrvatskoga jezika, bilo da se radi o osobama s jezičnim poremećajima ili osobama bez jezičnih poremećaja.

Ključne riječi: hrvatski korpus neprofesionalnoga pisanog jezika, pisani jezik, žanrovi, jezični poremećaji

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Philipp Wasserscheidt¹, Marija Mandić⁵

philipp.wasserscheidt@hu-berlin.de, marija.mandic@bi.sanu.ac.rs

Nadine Vollstädt¹, Ana Jovanović², Ivana Tanasijević³

nadine.vollstaedt@googlemail.com, anajovano@gmail.com, ivana@matf.bg.ac.rs

Teodora Vuković⁴, Ivana Vučina Simović², Uliana Yazhinova¹

bravethea@gmail.com, ivanavusim@gmail.com, yazhinovaaul@gmail.com

Andelka Zečević³

andjelkaz@matf.bg.ac.rs

¹ Department of Slavic and Hungarian Studies, Humboldt-University of Berlin
Germany

² Faculty of Philology, University of Belgrade, Serbia

³ Faculty of Mathematics, University of Belgrade, Serbia

⁴ Department for Slavic Studies, University of Zurich, Switzerland

⁵ Institute for Balkan Studies, Serbian Academy of Sciences and Arts, Serbia

Corpus-based analysis of spoken narratives. Introducing a corpus and a search tool

Summary

This paper is concerned with the development of a synchronic corpus containing Serbian spoken narratives and its use for narrative analysis. The corpus (CRONUS – Corpus for the Research On Narratives and their Use in Speech) is optimised to study the structure and use of this discourse genre. First, data sources are presented, followed by corpus creation and access. The semi-spontaneous spoken narratives were orthographically transcribed, and the corpus deeply annotated, with special emphasis on the annotation of narrative sections following Labov's approach and the annotation of argument structure constructions in the sense of Construction Grammar. Three case studies demonstrate how morphological and constructional annotation can be effective for the exploration of narratives.

Keywords: narrative, corpus, spoken language, Serbian, deep annotation

1. INTRODUCTION

Narratives are one of the most important and one of the most often studied discourse genres (Bamberg & Andrews, 2004; Bruner, 1991; de Fina, 2003; Georgakopoulou, 2007; Labov & Waletzky, 2003[1967]; Polanyi, 1979, to name only a few). The foundation for the study of narratives was laid by William Labov (Labov & Waletzky, 2003[1967]). According to Labov, narratives are not random stories about the past, but are characterized by a specific temporal structuring and social function. Within the framework of his structuralist analytical tradition, narratives have been interpreted as complex linguistic constructions. However, conversational narratives are also important places of social action, providing material for the study of individual and collective negotiations of identity and social orientation (Bamberg, 2004; de Fina, 2003). Narratives, thus, hold a key position between the two important levels of linguistic organization and are mutually integrated into the semiotic continuum in two directions downwards and upwards. The first one defines the semantic, syntactic and morphological structure and the semiotic continuum is inconceivable without it. The second one constitutes the identity-forming themes which often only have their justification within these families of stories. Thus, narratives are also at the interface of various cognitive domains: they are part of language, culture, social organization and serve as storages and filters for experiences and perceptions.

A deeper understanding of narratives in this dual function, therefore, has a high interdisciplinary significance for linguistics, cultural studies, anthropology, but also for digital humanities and modern, corpus-linguistic methods and for their part, promising to advance the complex analysis of narratives.

Narratives are also of interest in Natural Language Processing (NLP) because they contain information about speakers, events, and the stance of the speaker towards these events. Applications in the field of Information Retrieval or Text Summarization thus must recognize and decode narrative structures. For some special text types, there is a number of tools that can handle this task, for example for the processing of job applications or the summarization of medical reports (Savova, Chapman, Zheng, & Crowley, 2011). However, most of the NLP approaches and tools use the term narrative in a very broad sense, as anything that combines two events in time or does not provide information in form of a chart. In most cases, they deal with written language and not with spoken discourse. For example, abstracts of scientific papers have been regarded as narratives (Prabhakaran, Hamilton, McFarland, & Jurafsky,

2016). Still other approaches interpret the term narrative similarly to what has been described as semantic frame. Chambers and Jurafsky (2008, 2010) analyse typical chains of actions connected to crime and court as narrative chains (the ‘prosecution frame’).

Spoken narratives, which this paper is concerned with, are complex communicative units, they can only be studied using deeply and consistently annotated spoken corpora. The construction and annotation of a spoken corpus is challenging in many ways. This is especially the case for Serbian, since, practically, no spoken corpus is available, and many tools have not yet been developed. The construction of a corpus of narratives has some additional challenges to it: as the theory building in narrative theory is still developing dynamically, annotation must be as flexible and theory independent as possible, without using coarse categories.

The original idea of the project that led to the corpus described in this paper was to create a database that enables the investigation of narratives as constructions in the understanding of Construction Grammar (Goldberg, 1995). There already exist several small corpora that focus on either written or spoken narratives. One of the oldest is the PetersonMcCabe Corpus (Peterson & McCabe, 1983) which is sampled from elicited child narratives. A comparable resource is the (written) N2 narrative corpus which has been developed for the purpose of automated language processing (narrative.csail.mit.edu/n2/). Corpora that are dedicated to the investigation of spoken narratives are the French Oral Narrative Corpus (frenchoralnarrative.qub.ac.uk) and the English Narrative Corpus (Rühlemann & O'Donnell, 2012).

Based on the available information, none of the mentioned corpora includes the elements that in the tradition of Labov have been called narrative components. Instead, mostly machine-readable levels have been interpreted and some levels of annotation that can be added semi-automatically. Since the purpose of the corpus described in this paper is the investigation of the constructional structure of narratives, we found it vital to include other levels of annotation, even if their status may be more spurious. Rühlemann and O'Donnell (2012) explicitly refute a componential analysis referring to the unclear status of the components itself. In our view, this uncertainty can only be overcome with the help of corpus analyses of those components. Swanson, Rahimtoroghi, Corcoran, and Walker (2014) show that an automated annotation of narrative components in the sense of Labov and Waletzky is, in principle, possible. So, one of the aims of the present corpus is to offer a resource that enables research into the characteristics of narratives and their components. Also, in contrast to the

existing corpora, only spontaneous and semi-spontaneous spoken data are included in this corpus.

This paper focuses primarily on the challenges and solutions that we have found in the representation of spoken data in Serbian. Both the aspects of the technical infrastructure and the conceptual levels of analysis, that together ensure an extensible, reusable and comparable corpus for the study of the structure of narratives, will be included. Several case studies will illustrate how this corpus can be used to study the different levels that together constitute a narrative.

In section (2) the data sources (2.1), the processing steps (2.2), the annotation layers available (2.3) and the access to CRONUS (2.4) will be introduced. Building on that, the different layers of annotation in section (3), starting with transcription (3.1), the token-level annotation (3.2) and continuing with narrative (3.3) and constructional (3.4) annotation will be addressed. Section (4) will exemplify the need for an open, multi-layer architecture by several case studies.

2. THE CORPUS

Version 1.0 of the corpus contains 57 transcripts of narratives with 8 embedded narratives in 50 documents. The corpus contains 25,320 words (lexical words, without punctuation marks or similar) and 3,867 types produced by 18 speakers. The narratives range from 24 to 1,000 words of length and are parts of ethnographic interviews conducted by the Balkan Institute of the Serbian Academy of Sciences and Arts between 2004 and 2008. The documents are stored in separate XML files according to the TEI standard. Each document is stored with comprehensive metadata about speakers, interviewers, place and date of recording as well as other metadata concerning the preparation of the text like transcribers and correctors. Speaker metadata are stored in separate files. The texts are transcribed diplomatically (section Transcription) and deeply annotated (sections 3.2–3.4).

2.1. Data source

The source for the narrative analysis was the Digital Archive of the Institute for Balkan Studies of the Serbian Academy of Sciences and Arts (DABI), which stores several thousands of hours of interviews, photos and video material collected among multi-ethnic and multilingual communities in South-East Europe over the course of two decades (Ilić [Mandić] & Đurić Milovanović, 2012; Sikimić, 2012). It was decided

to focus on the South Banat, particularly on the narratives collected within the Serbian community in the village of Omoljica. Since 2004, the team of the Institute for Balkan Studies and its associates have collected hundreds of audio recordings among different speech and ethnic communities in the South Banat and produced a body of scholarly work on the South Banat communities. The scope of this paper does not allow us to cite all relevant papers but just a tight selection, cf. on Bulgarians Vučković (2007) and Sikimić and Nomači (2016), on Hungarians Wasserscheidt (2010) and Bala (2010, 2015), on Roma Sikimić, Hristov, and Golubović (2012) and on Romanians Sorescu Marinković (2016). The choice of Omoljica was motivated by its tradition of multiculturalism and interethnic encounters, as well as by its tumultuous history of colonisation and urbanisation, which influenced the village's oral history and made it a fruitful field for oral narrative research.

Omoljica is a village located within the municipality of Pančevo in South Banat on the bank of the Danube, in the Serbian Province Vojvodina. Serbian settlers have been registered since the 15th century. At the beginning of the 18th century, when the Hapsburgs seized all territories north of the rivers Danube and Sava, Omoljica was colonised by German settlers, with the German colonisation reaching its peak between 1765 and 1770. Soon after, Serbian and smaller numbers of Croatian families from different regions (1789–1791) and Romanians (1781–1805), mainly from today's Romanian Banat, were settled (on the colonisation, see Haag, 1938 and Pecinjački, 1985).

Nowadays, Omoljica is located within the multi-ethnic municipality of Pančevo. According to the last Serbian Population census in 2011, Omoljica had 6,309 inhabitants (Statistical Office of the Republic of Serbia, 2013). The majority are Serbs (90.66%; 5,720), with the minorities including Roma (1.77%; 112), Macedonians (1.2%; 81), Hungarians (1.2%; 76), Romanians (1.14%; 72), Bulgarians (0.33%; 21) and Germans (0.28%; 18). The village is surrounded by settlements with varying ethnic composition, e.g., Ivanovo (Hungarian and Bulgarian), Vojlovica (Hungarian, Serbian and Slovak), Skorenovac (Hungarian, Bulgarian and Serbian) and Starčevo (Serbian and Croatian).

The ethnological fieldwork on oral histories and local traditions in Omoljica has been conducted by Marija Mandić (Ilić) and colleagues between 2004 and 2008, mainly with the Serbs and Romanians. More than 50 interlocutors were interviewed in that period. For this project, 7 main narrators were selected (4 men and 3 women), all speakers of Serbian whose age ranges from 45 to 85. The collocutors were mainly

older people who keep the oral tradition alive and have all different sorts of narrative themes and genres in their narrative repertoires. Additionally, 11 narrators also took part in the conversations or even in the narration.

2.2. Processing steps

The sample for the corpus was compiled through the hand selection of personal narratives from DABI. A researcher with long-standing experience in narrative analysis selected parts of existing and not yet transcribed recordings containing sequences with at least the Labovian minimal narrative structure "A then B". In the next step, all selected recordings have been transcribed by eight trained linguists with EXMARaLDA (Schmidt & Wörner, 2014) using the HIAT transcription system (Ehlich & Rehbein, 1976). Each transcription has been checked by two correctors (inter-annotator agreement, however, has not been consistently measured) and then exported to a TEI XML file. GATE (Cunningham, Tablan, Roberts, & Bontcheva, 2013) was chosen as the annotation tool. Annotation schemas have been written for all annotation levels which will be discussed below. Annotation was executed automatically (POS), semi-automatically (pauses) and manually (all other). The corpus files have then been exported to stand-off GATE XML, which in turn has been converted to TEI XML file using eXist (exist-db.org).

2.3. Annotation layers

The main aim of corpus design was to enable research into the selected narratives from the perspective of Construction Grammar (e.g., Fillmore, Kay, & O'Connor, 1988; Goldberg, 1995). As theoretical premise, the traditional approach of Labov and Waletzky (1967) was used. Their analysis of narratives was based on the identification of (narrative) clauses and led to the introduction of narrative components such as orientation, evaluation or complicating action (see section 3.3). The narrative components were annotated by hand. As it were, many narratives include other narratives that serve the function of one of the components. For example, a speaker can provide a short narrative instead of an orientation, indicating that the resulting situation that occurred as outcome of the (embedded) narrated events will serve as starting point for a new narrative. Therefore, the distinction between main narratives and embedded narratives with their respective components was made.

The construction grammar perspective on the other hand urged us to include information about the linguistic surface. Research on narratives revealed that, among others, tense, aspect, person, number, clause type (state vs. event) and discourse

elements are important information at the surface level (Polanyi, 1982). These have been coded on the level of morphosyntactic description (see section 3.2). Clause types were not annotated so far, although they are the main analytical vehicle for Labov and Waletzky. Instead, argument structure constructions (Goldberg, 1995) were annotated. The two notions are to some extent similar, although the notion of construction is wider than the definition of a clause (see section 3.4).

If narratives are regarded as cognitive routines, it is very likely that they also display some sort of frequency effects (Arnon & Snider, 2010). Since reaction time or similar measures cannot be produced for this kind of data, we focused on the fluency of the narrative production. If a narrative has been produced repeatedly or the event described in the narrative is recurring frequently, we would expect a higher degree of entrenchment (Schmid, 2017) indicated by the number of pauses and lapses during production. Therefore, a special layer, where unfilled pauses, lengthened sounds, repairs and repetitions are annotated is also included in the corpus.

Narratives are often not recognizable without a proper understanding of the context in which they have been produced (Polanyi, 1982). In order to cope with this, we annotated a wider context, which gives information as to the motivation for the narration, the chosen type of narrative and the like.

The annotation layers we included are thus as can be seen in Table 1:

Table 1. Levels of annotation

Tablica 1. Razine anotacije

No. / Br.	Name / Naziv	Description / Opis	Annotation / Anotacija
1	Narrative type	(Types of) narratives and their context(s) [Values: Personal, Collective, Hypothetical, Habitual, Communal, Implied, Anecdote, Independent context]	Manual
2	Narrative element	Components of the narratives according to Labov [Values: Abstract, Coda, Communicative Context, Complicating Action, Evaluation, Orientation, Resolution]	Manual
3	Embedded narrative element	Components of embedded narratives [Values: Abstract, Coda, Communicative Context, Complicating Action, Evaluation, Orientation, Resolution]	Manual

No. / Br.	Name / Naziv	Description / Opis	Annotation / Anotacija
4	Discourse constructions	Constructions that organise discourse [Value: List Construction]	Manual
5	Clause-level constructions	Argument structure constructions [Values: Transitive, Intransitive, Identification, Characterization, Existential, Localization, Intransitive Motion, Ditransitive, Caused Motion, Other]	Manual
6	Morpho-syntactic Description (MSD)	Syntactically relevant morphological categories [Values: MULTTEXT-East-Tagset for Serbian]	Automatic
7	Pauses	Deferred speech [Values: Unfilled, Lengthened, Turn Taking, Repairs, Planning]	Automatic
8	Sentence	Sentence boundaries according to the transcription	Automatic
9	Token	Tokenization according to ANNIE tokenizer in GATE	Automatic

2.4. Corpus access

The complete data is available as XML files on the website www.spokencorpus.eu/cms/cronus. However, the investigation of narratives still requires a qualitative analysis, the main work of which is the comparison of different types of narratives or different components and their properties. In order to make this possible, CRONUS can be also queried online via a specially programmed search mask, available at <http://poincare.matf.bg.ac.rs/~andjelkaz/diwna/>. The DIWNA tool allows users to perform searches on the following levels:

- Narrative types
- Narrative components (embedded and unembedded)

Within narrative types and narrative components, users can search for:

- Morpho-syntactic Description (MSD)
- Clause-level constructions

The search mask consists of selection boxes or selection lists for all levels except the morphosyntactic one, so that a simple search is possible:

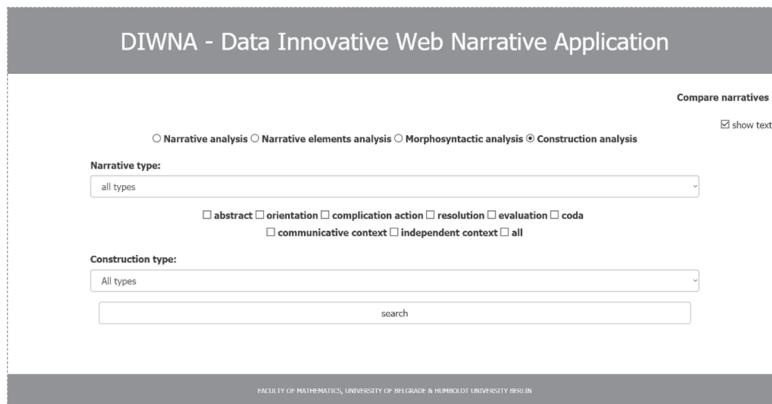


Figure 1. Home screen of the online tool DIWNA

Slika 1. Početni ekran internetskoga alata DIWNA

The output can be provided as full text i.e., the entire sequence corresponding to a specific search query is output. This makes it possible to read complete narratives. A comparison can be made on all levels in a parallel window, compare Figure 2.

This figure displays two parallel windows showing narrative analysis results. Both windows have identical top sections with 'Narrative type: Personal Narrative' and 'Construction type: Transitive'. They also feature a 'show text' checkbox and a 'Compare narratives' section with a checked 'show text' option. The left window is labeled '1' at the bottom and contains the following text:

- CompAct
- CompAct
 - Tran
 - formirao je neki odbor sa meštanima
- CompAct
- CompAct
 - Tran
 - su popisali sve te kuće
- CompAct
 - Tran
 - je doveo

The right window is labeled '2' at the bottom and contains the following text:

- Orientation
- Orientation
 - Tran
 - pošto su meštani te kuće sve zaplenili
- Orientation
- Orientation

Figure 2. Example analysis: Comparison of transitive constructions in complication vs. orientation in personal narratives

Slika 2. Analiza primjera: usporedba tranzitivnih konstrukcija u komplikaciji i orijentaciji osobnoga pri povijedanja

3. TRANSCRIPTION AND ANNOTATION

Transcription and annotation will be explained in brief. The annotation included morpho-syntactic features, narrative components and argument structure constructions.

3.1. Transcription

The selected recordings were "diplomatically" transcribed by a trained linguists and checked by two correctors each. A diplomatic transcription uses, as far as possible, the writing system available in the respective language (regardless of whether it is a phonological, morphological or etymological orthography), but adapts the forms to the actual pronunciation. Typical forms for Serbian colloquial language are, for example, the shortening of the vowel combination *ao* in participles (*došo* instead of *došao* 'came') or other words (*ko* instead of *kao* 'like'). We used the system HIAT (Half-interpretative working transcription; Ehlich & Rehbein, 1976; Rehbein, Schmidt, Meyer, Watzke, & Herkenrath, 2004). It is only minimally intrusive and allows easy reading of the transcripts. HIAT provides several potential encodings. However, we have decided to proceed diplomatically here as well: we have included all the information that is potentially relevant for analysis but limited the information to the necessary. Specifically, the highlighted features are listed in Table 2:

Table 2. Elements of HIAT used in the transcription
Tablica 2. Elementi HIAT-a primijenjeni u transkripciji

Element / Element	Transcription / Transkripcija	Tag / Oznaka	Example / Primjer
Pauses	• or (Xs)	PAUSE	O:vaj • • uglavnom • • gde ((1.5s)) je bilo tako
Abortions	/	-	A imate i izbe/ i recentn/• najnovije izbeglice?
Interruptions	...	-	zavisi koja doba godišnje i ...
Elongations	:	-	I:zmotavali se šalili se na svoj račun i na račun Nemaca.
Non-comprehensible parts	(inc)	-	Ali to su (inc) se desi
Guesses	()	-	nije (Bosa/) ((laughs))
Non-linguistic actions	((laughs)) ((coughs))	META	ɔ ((coughs)) Kad su digli sa tim šleperima

Punctuation marks are used to represent an illocutionary mode. To increase readability, we have decided to capitalize the beginning of the sentence according to Serbian orthography, as well as proper names. Abortions were also marked, given that they can sometimes provide insight into the thinking process, signalling confusion, change of mind or sometimes even mark a complete change in the course of the narrative. On the level of prosody, filled and unfilled pauses are noted. Apart from the verbal production and prosodic elements, the transcripts contain information about other vocal cues audible in the recordings, such as cough or laughter, as some of them can be very important in the narrative analysis (Goodwin, 2015: 199), often representing the attitude of the speaker. Information about overlaps is accessible using the time-points in EXMARaLDA.

We preferred diplomatic transcription over standard-oriented transcription. Since transcription is generally the bottleneck in the processing of spoken data, the work invested should be used as effectively as possible. Above all, most information from the audio file should be preserved. Since the characteristics of the spoken language, which can be reproduced from transcripts using diplomatic transcription, are recognised by the transcriber during the process and represent valuable information for the analysis, it would be a waste of resources not to record it if a standard-oriented transcription is used. Furthermore, the used HIAT system is relatively intuitive and easy to use even by less trained transcribers. There are further arguments for a diplomatic transcription: on one hand, there may be dialectal or colloquial morphological forms which have no trivial equivalent in the standard language. On the other hand, it is relatively easy to automatically annotate the standard forms for trivial correspondences by means of a lexicon and a tagger.

3.2. Token-level annotation

MULTEXT-East Tagset (Version 5.0, Erjavec, 2012) with its specifications for Serbian and Croatian was used for the annotation of parts of speech and morphological categories. MULTEXT-East is a tagset that focuses on syntactically relevant morphological categories and is well equipped to represent the morphological wealth of the Slavic languages. The Serbian/Croatian specifications have potentially more than a thousand combinations: the Serbian translation of George Orwell's '1984', which has been used as the basis for the development of MULTEXT-East specifications and lexicons (Erjavec et al., 2003), already contains 906 different morpho-syntactic descriptions (MSDs; Krstev, Vitas, & Erjavec, 2004). The resources provided by the ReLDI project, especially the Serbian lexicon srLex (version 1.0,

Ljubešić, Klubička, Agić, & Jazbec, 2016), were used for the annotation. Since the taggers available at the time of annotation did not produce usable results for our diplomatic transcription, we created our own CREOLE plugin for GATE based on Mark Hepple's Brill-style POS tagger, connected it to the extended SrLex and annotated the transcripts multiple times via the GATE pipeline. Ambiguous annotations were resolved manually in the next step.

The MULTTEXT-East Tagset operates exclusively on the level of the orthographic token. Thus, an utterance like (1) has on the level of the morpho-syntactic description the annotation as seen in Table 3:

- (1) E sad. • • ((coughs)) • • • Odmah posle oslobođenja • kad je • • •
 well now immediately after liberation when AUX
 kad je nastupi-o • ovaj takozvan-a agrarn-a reform-a
 when AUX started-MASC um so-called-FEM agrarian-FEM reform-FEM

'Well now. ... (coughs) ... Immediately after the liberation ... when ... when started ... um the so-called agrarian reform (...)'

Table 3. Morpho-syntactic annotation

Tablica 3. Morfosintaktička anotacija

No. / Br.	Token / Pojavnica	MSD-tag / MSD oznaka	No. / Br.	Token / Pojavnica	MSD-tag / MSD oznaka
1	E	I	16	oslobođenja	Ncnsq
2	sad	Rgp	17	•	PAUSE
3	.	Z	18	kad	Cs
4	•	PAUSE	19	je	Var3s
5	•	PAUSE	20	•	PAUSE
6	((	Z	21	•	PAUSE
7	)	Z	22	•	PAUSE
8	coughs	META	23	kad	Cs
9	))	Z	24	je	Var3s
10		Z	25	nastupio	Vmp-sm
11	•	PAUSE	26	•	PAUSE
12	•	PAUSE	27	ovaj	Pd-msn
13	•	PAUSE	28	takozvana	Agfsny
14	Odmah	Rgp	29	agrarna	Agfsny
15	posle	Sg	30	reforma	Ncfsn

We have added some dialectal and colloquial forms to the dictionary srLex to increase the accuracy of the morphological annotation. This addendum can be downloaded on www.spokencorpus.eu/cms/cronus. Furthermore, the codifications specific to the HIAT transcription standard were added to the lexicon, as these elements are naturally not available within the MULTTEXT-East specifications. In the example, this concerns the markings of the pauses (marked in HIAT with a dot •) and the non-linguistic or meta-linguistic events (such as *cough*).

3.3. Narratives

Starting point for the annotation of narratives and narrative components in particular was Labov's concept of the personal experience narrative (PEN) and the structural framework of PEN which consists of six components (Labov, 1976: 363–374; Labov & Waletzky, 2003[1967]: 93–102):

1. *Abstract*

Answers the question ‘What is the story about?'; placed at the beginning of the narrative.

2. *Orientation*

Answers the question ‘Who, where, when, what?', provides background information relevant to the narrative.

3. *Complicating action*

Answers the question ‘Then what happened?'; provides the plotline which refers to events following a chronological order.

4. *Evaluation*

Answers the question ‘Why is this story worth telling?'; conveys the narrator's point of view.

5. *Resolution*

Answers the question ‘How did it all end?'; usually follows or coincides with the evaluation.

6. *Coda*

Answers the question ‘That's it?'; signals that the narrative is finished and switches from narrated time to time of narration.

According to this framework, the complicating action is technically the only obligatory nucleus of a personal narrative. It consists of so-called narrative clauses, which represent the chronological order of the narrated event and thus cannot change

order (Labov & Waletzky, 2003[1967]: 84–88). Free clauses, on the other hand, can occur more or less freely throughout the narrative, and can exchange places with other clauses without changing the narrative's original semantic interpretation (Labov & Waletzky, 2003[1967]: 89).

Although Labov pointed out that his oral narratives were obtained as a response to questions during an interview, he did not include interaction in the description of oral narration. Post-Labovian research later moved from the study of narrative as a closed text to the study of narrative-in-context (Georgakopoulou, 2006: 123). It has become clear that many narratives do not fit completely into Labov's model, e.g., autobiographies, reports, chronicles, habitual narratives, small stories or hypothetical narratives (Bamberg & Andrews, 2004; Bamberg & Georgakopoulou, 2008; Georgakopoulou, 2006, 2007; Johnstone, 1993). Nevertheless, Labov's model has been applied widely in the analysis of different cultural communities and narrative genres (Bell, 1991; de Fina, 2003; Holmes, 1998; Linde, 1993; Polanyi, 1979, 1985).

In the case of interview discourse, which is also the main type of data in CRONUS so far, we come across dialogical narratives elicited for the purpose of research. Most often, there is a main narrator, while others are contributing to the storytelling: researchers ask questions or encourage the narrator, other participants supplement the story, emphasise parts of it, approve, object or repeat the words of the main narrator.

The narrative components were annotated in teams of two so that possible uncertainties and discrepancies could be discussed immediately. The annotation of narrative components is not an easy matter. The Inter-Annotator Agreement is reported to be relatively low and there are many cases where a decision is difficult to make (Swanson et al., 2014). The annotation employed for narratives and narrative structures, thus, does not aim at producing an essentialism based on a theory that has been criticised for its limitations and has already been further developed. Rather, it is believed that the theory of Labov and Waletzky is a good heuristic starting point for a more comprehensive description of the Serbian narratives. The annotation is not fixed but will change in accordance with the feedback from the analysis itself. The current annotation thus uses more or less intuitively accessible prototypes for both narrative types and narrative components.

From a structural point of view, principal narratives (frame stories) and embedded narratives, which are part of a bigger frame narrative and serve as one of its structural components, were differentiated. By using two criteria – the structure of

the narrative and its social role – different narrative genres were distinguished, namely personal experience narratives, anecdotes, collective narratives, communal narratives, habitual narratives, and hypothetical narratives (see Table 4 for the distribution of narratives in the corpus according to genres).

Table 4. Types of narratives in the corpus and their numbers

Tablica 4. Vrste pripovijedanja i njihova zastupljenost u korpusu

Narrative genre / Vrsta pripovijedanja	Number / Broj	Narrative genre / Vrsta pripovijedanja	Number / Broj
Personal experience narratives	29	Collective narratives	11
Anecdotes	6	Communal narratives	8
Hypothetical narratives	2	Habitual narratives	23

Personal experience narratives (PEN) were defined by Labov and Waletzky (1967: 81) as a verbal technique for recapitulating an individual experience of the narrator or other people.

Anecdotes represent a short humorous narrative form which refers to an individual person and/or an incident. This genre is usually described as transitory between a biographical account and a fable (Blache, 1999; Hranjec, 1990; Ilić [Mandić], 2007). As such, it is usually first told as PEN, then it takes over some established folklore motifs and merges them with PEN, and eventually becomes part of the community narrative repertoire. Although anecdotes differ from PEN in their social role, they use the same narrative structure.

In this spoken corpus, several narrative genres refer to collective experience. Collective, communal and habitual narratives are distinguished. *Collective* narratives are based upon collective cultural memory and belong to the community's narrative repertoire (Ilić [Mandić], 2014a). When referring to collective agency, they play an important social role in the negotiation of the group's identity. *Communal* narratives also employ collective agency and refer to events which are believed to have some importance for the given community. However, their social role is limited: it is not sure whether they are widespread, if they are going to survive the generational memory, and become part of cultural memory. Canefe (2004) argues that 'communal past occupies an otherwise overlooked grey area between individual recollection and

communal or national reconstruction of history'. *Habitual* narratives refer to iterative cultural and social practices like customs (Ilić [Mandić], 2014b: 257–259). They often employ shifting agency in one narrative, depending on the distance which the narrator takes to recalled events, i.e., whether he/she participated in, observed or just heard about a cultural script.

Hypothetical narratives were also identified in the material. They are narratives of projected events, placed in the realm of possibility, and are structurally close to some types of small stories as described by Georgakopoulou (2006, 2007).

3.4. Constructions

The integration of an annotation level for constructions origins in the purpose of the project in which the corpus has been developed. The project focuses on the possibility to describe narratives as complex constructions. Although from the perspective of Construction Grammar, constructions exist on various levels of linguistic description (and narrative components and narratives itself are also constructions), this level of annotation focuses on clause-level constructions. The rationale behind this is to test whether a construction-based analysis can replace the traditional Labovian approach which focuses on narrative clauses. The advantage of constructions lays in the fact that they are more flexible than the conception of clauses. In contrast to a clause-based analysis, they allow for basic narrative elements that do not contain verbs and hence would not bear the status of a clause. Whether this approach is useful still has to be tested.

On the clause level, argument structure constructions and constructions with nominal predicates were annotated. On the level of the discourse, the list construction [X i Y; 'X and (then) Y] has been tagged, which is important for narrative analysis since it often frames the complicating action. During the ongoing research, there may be other discourse-level constructions that will be added. Constructions were annotated by hand by one researcher and checked by a second. However, we annotated only the most frequent constructions as described in (Wasserscheidt, 2016: 191). These are the following, here shortly explicated with the semantic roles involved:

Transitive [Agent Action Patient], Intransitive [Agent Action], Identification [Theme COPULA Identity], Characterization [Theme COPULA Property], Existential [BE Theme], Localization [Place COPULA Theme], Intransitive

Motion [Agent Action Path], Ditransitive [Agent Action Benefactive Patient], and Caused Motion [Agent Action Patient Path].

Problematic issues for the annotation of sentential constructions are well known and involve mainly the independence of constructions in relation to similar ones. The question is thus whether a shortened or stretched construct still counts as an exemplar of the construction or whether it should already be regarded as an independent construction. For the annotation, we resorted to a verb centred solution: if the missing argument is a frequent and thus expectable argument of the verb, the full construction was chosen (as in (2) below). If not, another construction was selected.

- (2) Ovaj prodaje ovo • Ovaj kupuje • ne zna-m.
 This sells this This buys NEG know-1SG.
 [TRANSITIVE This one sells this.] [TRANSITIVE That one buys ... [I don't know].]

While the first utterance in (2) is clearly a transitive construction, the second lacks a patient. However, since the speaker obviously planned to add an example of goods that have been bought, but cannot come up with one, and since the verb *kupovati* 'buy' is predominantly transitive, we categorized the construct as transitive.

Passive constructions that might be seen as transformed transitive or ditransitive constructions have been annotated as *Other*. There are also a lot of 'spoken' constructions and uses of single NPs in order to answer question (3) or re-emphasize elements (4). All of them have been categorized as *Other*, as well.

- (3) Tri lanca zemlje.
 [OTHER Three hides land.]
- (4) Pet godina • • • dečačić u kapi • a pored lika petokraka ovolika.
 Five years boychild in cap and beneath picture fivestar such
 [OTHER(He lived) Five years.] [OTHER A boy with a cap.] [OTHER And next to the picture a five-pointed star, such a big one.]

In particular, the constructions typical of spoken language deserve closer examination in the future.

4. CASE STUDIES

Three short case studies will show how the corpus can be used, how a corpus-based analysis can generate new discoveries about narratives and, finally, how the use of the Labovian categorization can provide interesting insights.

4.1. The use of person over narrative types and components

The different components of narratives in general are expected to have different communicative functions. For example, the orientation is expected to set up a common ground between the narrator and the listener, while the purpose of the evaluation is to underline the significance of the narrative and to justify the discourse time used by the speaker to produce the narrative (Fludernik, 2014: 97). These functions likely correlate with component-specific morphological features. These features are partly necessary in order to code the function of the component and to allow the listener a proper interpretation. For example, both orientation and evaluation build a communicative relation between speaker and listener in that the speaker anticipates the listener's background knowledge and evaluates whether the establishment of the intended common ground was successful. This is evident from the use of the second person singular or plural (e.g., *Znate?* 'Do you know?') which for the listener servers as cue to interpret the information provided next to this element as background information and to add it to the mental space of the narrated event. On the other hand, the components' features also depend on their reference to the situations and events narrated. In this vein, it is expected that, for example, personal experience narratives contain more singular (first or third person) verb forms than collective narratives. Person, therefore, is a point of interest for research on the narrative corpus. Person is encoded within the MULTTEXT-East tags for verbs. Serbian has three persons (first, second, third) in two numbers (singular, plural).

One way to look at the different narrative components as well as the different types of narratives from the perspective of the category person, is to consider the role of the narrator. Their role can be both the agent of the narration, as well as the narrator or commentator. If the narrator is also the protagonist, the narratives are expected to occur in the first person. If the narrator is only the storyteller, as in collective narratives, reference to their own attitude towards the story will most likely happen in the evaluation, if anything. In order to test this, the three most frequent narrative genres were selected, all verbs were counted – or, in the case of analytic forms, auxiliaries – occurring in first person singular and compared this figure to the overall number of verbs.

Table 5. Use of 1. person in narrative elements in personal, collective and habitual narratives (ratio between 1SG and all verbs, figures above 0.200 marked bold)

Tablica 5. Uporaba prvoga lica u pripovijednim elementima u osobnim, kolektivnim i habitualnim pripovijedanjima (omjer broja prvoga lica i ukupnoga broja glagola, vrijednosti iznad 0,2 su podebljane)

Narrative type / Vrsta pripovijedanja	Orientation / Orientacija	Complication / Komplikacija	Evaluation / Evaluacija
Personal	0.164 (27/165)	0.251 (67/167)	0.261 (43/165)
Collective	0.096 (12/125)	0.030 (2/67)	0.224 (11/49)
Habitual	0.100 (9/90)	0.212 (32/151)	0.132 (9/68)

The result indicates that there is a significant difference between the overall use of the first person singular in the three narrative types – personal, collective and habitual ($\chi^2 = 18.9956$, $p = 0.000075$). There is also a significant difference between the overall use of the first person singular in the three components – orientation, complicating action and evaluation ($\chi^2 = 13.1857$, $p = 0.00137$). First person singular is thus unusual in the complicating action of collective narratives and in the orientation of all types of narratives. As expected, first person is not used in the complication of collective narratives, but figures in the evaluation of collective stories. An interesting difference between collective and habitual narratives is noted; while the former presents events that usually not happened to the narrator, first person is used in evaluation exactly as frequent as expected in general (the overall expected ratio of 1Sg vs. all main verbs in evaluation is 0.223). On the other hand, habitual narratives use first person singular in their complicating action, but not in the evaluation.

4.2. Constructions in different narrative components

The different functions of the components are also likely to influence the kind of argument structure used in them. Naturally, the complicating action is expected to show mainly argument structures that express actions or motion. The orientation, on the other hand, has the function to give background information, which often

provides some kind of categorization. It was, therefore, expected that the orientation has more nominal predicates. In order to see what types of constructions (see section 3.4) were used in the narrative elements, their distribution within each individual narrative element in relation to the other constructions was analysed and then compared the amount of usage of the individual constructions across the narrative elements.

Table 6. Distribution of constructions within the individual narrative elements (in percent, figures above 14.00 marked bold)

Tablica 6. Raspodjela konstrukcija u pojedinačnim pripovjednim elementima (u postotcima, vrijednosti iznad 14 % su podebljane)

Construction / Konstrukcija	Abstract / Abstrakt	Orient / Orijentacija	Complic / Komplikacija	Eval / Evaluacija	Resol / Rasplet	Coda / Koda
Transitive	27.09	21.97	30.56	27.35	26.59	23.48
Ditransitive	2.96	1.32	2.73	2.60	2.31	2.61
Intransitive	18.72	11.28	16.05	12.59	20.81	17.39
Intransitive motion	3.45	3.48	7.61	2.17	6.94	1.74
Caused motion	0.49	1.08	2.14	0.87	0.58	1.74
Localization	3.45	4.32	1.55	1.59	2.31	1.74
Identification	3.94	9.12	3.09	6.22	7.51	7.83
Characterization	4.43	8.88	2.97	9.84	3.47	4.35
List	4.93	11.16	14.03	11.29	5.78	5.22
Existential	15.27	6.84	2.02	5.21	6.94	15.65
Other	15.27	20.53	17.24	20.26	16.76	18.26
<i>Sum:</i>	100	100	100	100	100	100

Table 6 shows the percentage distribution of the specific construction types in the individual narrative elements within this corpus. For example, the abstract contains 27.09% transitive, 2.96% ditransitive, 18.72% intransitive constructions, etc. The highest percentage of annotated constructions for all narrative elements are transitive constructions, followed by either intransitive constructions, or those that

have been marked as *Other*. However, there is some variation in the distribution of constructions across narrative components. As expected, there is a larger percentage of "stative" characterization, identification and localization constructions in the narrative element orientation (in sum 22.32%) as compared to the other narrative components, which points to the description of the contextual setting in terms of person, location etc. The difference is even more notable, if we look at the distribution of the individual constructions within the narrative elements in Table 7. The table indicates that, for example, 7.27% of all transitive constructions occur in the abstract, 24.17 in the orientation, 33.95 in the complication and so on.

Table 7. Distribution of individual constructions across narrative elements (in percent, figures above 30.00 marked bold)

Tablica 7. Raspodjela konstrukcija prema pripovjednim elementima (u postotcima, vrijednosti iznad 30 % su podebljane)

Construction / Konstrukcija	Abstract / Abstrakt	Orient / Orientacija	Complic / Komplikacija	Eval / Evaluacija	Resol / Rasplet	Coda / Koda	Sum / Zbroj
Transitive	7.27	24.17	33.95	24.97	6.08	3.57	100
Ditransitive	9.23	16.92	35.38	27.69	6.15	4.62	100
Intransitive	9.27	22.93	32.93	21.22	8.78	4.88	100
Intransitive motion	5.43	22.48	49.61	11.63	9.30	1.55	100
Caused motion	2.70	24.32	48.65	16.22	2.70	5.41	100
Localization	9.59	49.32	17.81	15.07	5.48	2.74	100
Identification	4.57	43.43	14.86	24.57	7.43	5.14	100
Characterization	4.81	39.57	13.37	36.36	3.21	2.67	100
List	3.17	29.52	37.46	24.76	3.17	1.90	100
Existential	18.13	33.33	9.94	21.05	7.02	10.53	100
Other	5.77	31.84	27.00	26.07	5.40	3.91	100

It is shown that no less than 43.43% of all identification and 49.32% of all localization constructions used in the narratives can be found in the orientation. Constructions predominantly denoting some kind of action, on the other hand, can

be found mostly in the complication. This component consists by 59.09% of the first five "non-static" constructions in Table 6. These numbers are largely due to transitive and intransitive constructions. However, for the intransitive motion and the caused motion construction, this means that almost half of all occurrences are used in the complication. The orientation, on the other hand, consists by only 39.13% of these construction types.

Another example of meaningful variation between the narrative components are list constructions. Here, the highest percentage was also found in the complication. List constructions function on the discourse level, where the listing of successive events is connected by the conjunction *i* 'and' and serves to mark the temporal sequencing of the events. Interesting is furthermore the comparatively high number of existential constructions in both the abstract and the coda (see Table 6) – which, in a sense, indicate the situation in the initial and final situations and frame the narrative action.

4.3. Tense in different narrative genres

Since the identified types or genres of narratives are used to communicate events that have different relations to the time of narration, it is expected that they also differ in the tenses they use. Collective and communal, but also personal narratives refer exclusively to past events and are likely to display a higher use of past tense. It is, however, a common feature to all European languages that past events can also be told in present tense – which is called narrative or historic present. This is most characteristic for anecdotes but may also be used in other narrative genres.

Serbian has a rich system of verb tenses: one tense for present, two for future (I and II), and four for past – perfect, pluperfect, aorist and imperfect. The last three are not used often in daily speech, especially the imperfect (there are, however, other Serbian dialects that use aorist regularly, see Veljović, 2015). The Serbian perfect tense covers the functions of all the English past tenses and is the most commonly employed past tense in general. The aorist refers to terminated and/or completed actions which usually happened immediately prior to the moment in which they are described.

We analysed the use of the tenses in the components complication and resolution in different non-embedded narrative genres. The most commonly used tenses over all genres happen to be present (50.73%) and perfect (47.61%).

Table 8. Use of verb tenses in different narrative genres (in percent, figures above 50.00 are marked bold)**Tablica 8.** Uporaba glagolskih vremena u različitim pripovjednim vrstama (u postotcima, vrijednosti iznad 50 % su podebljane)

Tense / Vrijeme	Collective / Kolektivni	Communal / Komunalni	Habitual / Habitualni	Anecdote / Anegdota	Personal / Osobni
n	54	37	148	36	206
Perfect	77.78	83.78	7.43	33.33	64.56
Present	22.22	16.22	91.89	66.67	32.04
Aorist	0	0	0	0	3.40
Future	0	0	0.68	0	0

The past tense dominates in collective, communal and personal experience narratives. The relatively high number of present and aorist verbal forms in the personal experience narratives compared to collective and communal narratives can be explained by the use of the narrative (historical) present and by the use of direct or indirect speech, where verbs denoting the act of speaking (*I say, he says* etc.) are either in the narrative present or aorist. In contrast to these genres, habitual narratives almost exclusively employ present tense forms. Anecdotes are an interesting case: although based on stories which happened in the past, they preferably use narrative present.

5. CONCLUSION

This paper describes the first attempt to develop a corpus of spoken narratives that uses the Labovian structural model and enables analysis with a deep annotation. The work is not yet finished, and improvements have to be made at all levels (transcription, annotation and representation). Nevertheless, we were able to show that this resource can be used to achieve valuable results and generate new insights.

Specifically, the combined analysis of morpho-syntax, syntactic constructions and narrative components can be used to reveal various characteristics of narratives that a) show the function of the individual narrative components and b) enable us to describe individual narrative genres in more detail. The corpus could thus potentially help to close the gap between the structure of narratives that Labov postulated and that has been applied in many analyses and the empirical difficulty of identifying them.

It is planned to enlarge the database from the hitherto modest size. Above all, more narrators are to be involved in order to be able to carry out meaningful, supra-individual analyses. The corpus will also contain additional annotation levels, such as syntactic functions and information structure. One of these additional layers might include prosodic features such as intonation, stress, tempo etc. Between narrative clauses, we often find embedded orientation and other comments to the story that are clearly set off because they belong to separate intonational levels (Fludernik, 2002: 45). Intonation is also used to differentiate between the story telling and its enclosing activities (Selting, 1992). A frame-semantic annotation also renders useful, since narratives essentially build on (individual, collective or general) knowledge.

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Philipp Wasserscheidt¹, Marija Mandić⁵

philipp.wasserscheidt@hu-berlin.de, marija.mandic@bi.sanu.ac.rs

Nadine Vollstädt¹, Ana Jovanović², Ivana Tanasijević³

nadine.vollstaedt@googlemail.com, anajovano@gmail.com, ivana@matf.bg.ac.rs

Teodora Vuković⁴, Ivana Vučina Simović², Uliana Yazhinova¹

bravethea@gmail.com, ivanavusim@gmail.com, yazhinova@yandex.ru

Andelka Zečević³

andjelkaz@matf.bg.ac.rs

¹ Odsjek za slavistiku i hungarologiju, Humboldtovo sveučilište u Berlinu
Njemačka

² Filološki fakultet, Sveučilište u Beogradu, Srbija

³ Matematički fakultet, Sveučilište u Beogradu, Srbija

⁴ Odsjek za slavistiku, Sveučilište u Zürichu, Švicarska

⁵ Balkanološki institut, Srpska akademija znanosti i umjetnosti, Srbija

Korpusna analiza govornoga pripovijedanja. Prikaz korpusa i alata za pretragu

Sažetak

Rad se bavi razvojem sinkronoga korpusa, koji sadrži govorno pripovijedanje na srpskom jeziku, te uporabom toga korpusa za pripovijednu analizu. Korpus (CRONUS – Korpus za istraživanje pripovijedanja i njegove uporabe u govoru) je optimiziran za proučavanje strukture i uporabe žanra usmenoga pripovijedanja. U radu su predstavljeni izvori podataka te stvaranje korpusa i pristup korpusu. Usmeno pripovijedanje iz istraživačkih intervjua je transkribirano, a korpus duboko anotiran, s osobitim naglaskom na anotaciju pripovjednih dijelova prema Labovu te prema konstrukcijama argumentnih struktura Konstrukcijske gramatike. Tri studije slučaja pokazuju kako se morfološke i konstrukcijske anotacije mogu učiniti plodnima za istraživanje govornoga pripovijedanja.

Ključne riječi: govorno pripovijedanje, korpus, govorenji jezik, srpski jezik, dubinska anotacija

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Ana Leko Krhen, Gordana Hržica

ana.leko@erf.unizg.hr, gordana.hržica@erf.unizg.hr

Edukacijsko-rehabilitacijski fakultet Sveučilišta u Zagrebu
Hrvatska

Natalija Kokot

natalija.kutnjak@gmail.com

VaLMod centar logopedija, Varaždin
Hrvatska

Sintaktičke sposobnosti djece koja mucaju

Sažetak

Ideja o povezanosti mucanja i jezika potiče istraživanja niz godina, no rezultati nisu jednoznačni. Neka su istraživanja pokazala da su jezične sposobnosti djece koja mucaju (DKM) slabije, dok druga nisu utvrdila razlike u odnosu na vršnjake urednoga govornog razvoja (DKNM). Ciljevi su rada ispitati razlike u razumijevanju i proizvodnji sintaktičkih struktura između djece koja mucaju i djece koja ne mucaju, te ispitati povezanost sintaktičkih sposobnosti djece koja mucaju i jakosti mucanja. U istraživanju je sudjelovalo petnaestero djece koja mucaju i petnaestero koja ne mucaju. Jakost mucanja ispitana je instrumentom za ispitivanje jakosti mucanja (*Stuttering Severity Instrument – SSI*). Korišten je i test razumijevanja gramatike (TROG-2:HR) te hrvatska inačica višejezičnoga instrumenta za procjenu pripovijedanja (*Multilingual Assessment Instrument for Narratives – MAIN*). Izračunate su prosječna duljina komunikacijske jedinice, koja je pokazatelj sintaktičke složenosti u jezičnoj proizvodnji, te gustoća klauza. Viši rezultat na ovoj mjeri znači da je ispitanik u nekome jezičnom uzorku upotrijebio više zavisnosloženih rečenica. Rezultati su pokazali da se DKM ne razlikuje od DKNM-a na testu TROG-2:HR, kao ni prema prosječnoj duljini komunikacijske jedinice i gustoći klauza (pismeno i usmeno). Ne postoji značajna povezanost između jačine mucanja i prosječne duljine komunikacijske jedinice i gustoće klauza. Rezultati se mogu tumačiti u smjeru nepostojanja razlika u jezičnim sposobnostima dviju skupina ispitanika, ali ih je potrebno oprezno interpretirati zbog mogućega utjecaja terapije na jezične sposobnosti.

Ključne riječi: dječji jezik, mucanje, sintaktičke sposobnosti, prosječna duljina komunikacijske jedinice, gustoća klauza

1. UVOD

Optimalni govor oblikovan je ritmom slogova, riječi i rečenica te se ostvaruje uz najmanji utrošak energije i vremena (Škarić, 2007). Takav se tečan govor ostvaruje kontinuirano, prema ritmu, visini, naglasku i intonaciji određenoga jezika. Kada je tečan govor prekinut ponavljanjima, produljivanjima ili zastojima javlja se mucanje (Bloodstein i Bernstein Ratner, 2008). Mucanje nisu samo očite netečnosti u govoru, već je ono multidimenzionalni poremećaj kojega uz govorna obilježja čine i sekundarna ponašanja (različiti tjelesni pokreti), fiziološka aktivnost, emocionalne karakteristike, kognitivni procesi i socijalna dinamika. Upravo je ova složenost razlog što ne postoji jedinstvena definicija mucanja. Jedna grupa definicija usmjerena je isključivo na govorna obilježja mucanja, dok druga grupa definicija proučava mucanje kao složeni poremećaj (Yairi i Seery, 2015) koji može uključivati i različita jezična odstupanja.

Iako se mucanje prvenstveno smatralo govorno-motoričkim poremećajem, već dugi niz godina brojni istraživači i stručnjaci ističu ideju o povezanosti mucanja i jezika. Mucanje najčešće započinje u trećoj godini života, što je ujedno i razdoblje intenzivnoga jezičnog razvoja (Conture, 2001). Ward (2006) daje sažet prikaz prijašnjih istraživanja koja pokazuju da se učestalost mucanja povećava zajedno s povećanjem duljine iskaza i rječničke raznolikosti, da je mucanje češće na gramatički složenijim strukturama te kod manje učestalih i sadržajnih riječi. Što je više navedenih čimbenika u jednoj riječi veća je vjerojatnost da će se dogoditi trenutak mucanja. Istraživanja pokazuju da su ova "mjesta mucanja" (engl. *loci of stuttering*) karakteristika svih govornika, odnosno da se i obične netečnosti kod urednih govornika javljaju na istim mjestima (Yairi i Seery, 2015). Arndt i Healey (2001) navode da 44 % djece koja mucaju pokazuju barem jedan dodatan jezični i/ili govorni poremećaj. Blood, Ridenour, Qualls i Hammer (2003) u istraživanju velikoga broja djece koja mucaju utvrdili su da 46 % djece koja mucaju pokazuje i artikulacijske teškoće, a 26 % ima i neki jezični poremećaj. Važno je uzeti u obzir da su istraživanja provođena kroz duži niz godina te da su se nazivi i klasifikacije poremećaja mijenjali, kao i neki dijagnostički kriteriji. U nastavku ovoga rada rabit ćemo krovni termin *jezični poremećaji* za poremećaje uključene u prethodna istraživanja, a za koje bi se danas rabilii nazivi *razvojni jezični poremećaj* te *disleksija*.

Važno je napomenuti da u istraživanjima jezičnih sposobnosti djece postoje velike metodološke razlike, a jedna se od njih odnosi na odabir uzorka djece koja

mucaju. Naime, u novijim se pristupima smatra da bi djecu koja mucaju, a uz to pokazuju niže jezične sposobnosti, udovoljavajući tako kriterijima dodane dijagnoze razvojnoga jezičnog poremećaja, trebalo izuzeti iz istraživanja. No, naše se spoznaje temelje i na jednim i na drugim načinima odabira uzorka te je ponekad teško utvrditi je li skupni rezultat djece koja mucaju posljedica uključivanja u skupinu i određenog postotka djece s razvojnim jezičnim poremećajem, koji je u toj skupini viši nego u skupini djece urednoga jezičnog razvoja (Blood i sur., 2003; Nippold, 2004), ili stvarnih razlika u jezičnim sposobnostima između djece koja mucaju i djece urednoga jezičnog razvoja. U Hrvatskoj su istraživanja jezičnih sposobnosti djece koja mucaju rijetka. Jedno od novijih istraživanja je ono Galić-Jušić (2016) koja je ispitivala leksičko usmjeravanje (engl. *lexical priming*) u skupinama mlađe i starije djece koja mucaju u odnosu na djecu iz kontrolnih skupina te je potvrđila različitu ulogu funkcionalnih i sadržajnih riječi između ispitivanih skupina. U istraživanju koje su proveli Sardelić, Bonetti i Hrastinski (2007) ispitivala se fonološka svjesnost djece koja mucaju i njihovih vršnjaka tečnoga govora.

U ovom se istraživanju djeца која mucaju, govornici hrvatskoga jezika, uspoređuju sa svojim vršnjacima urednoga jezičnog razvoja na nekoliko mjera razvoja sintakse, a rezultati mogu rasvijetliti i opća pitanja o sintaktičkim sposobnostima djece koja mucaju.

1.1. Istraživanja sintaktičkih sposobnosti djece koja mucaju

Uočeno kašnjenje ili odstupanje u jezičnim sposobnostima djece koja mucaju dovelo je do niza usporedbi djece koja mucaju i njihovih vršnjaka urednoga govornog razvoja na različitim mjerama jezičnih sposobnosti. Rezultati tih istraživanja su raznoliki. Neka su istraživanja pokazala da su opće jezične sposobnosti djece koja mucaju slabije (Bernstein Ratner i Silverman, 2000; Byrd i Cooper, 1989; Ryan, 1992), dok druga nisu utvrdila razlike u odnosu na njihove vršnjake urednoga govornog razvoja (Perozzi, LuVern i Kunze, 1969; Pitluk, 1982). Mogući razlog takvih rezultata su razlike u metodologiji istraživanja (Ntourou, Conture i Lipsey, 2011), posebno u već spomenutome problemu odabira uzorka.

Ispitivanje morfosintaktičkih sposobnosti djece koja mucaju proveli su Junuzović-Žunić i Ibrahimagić (2013). U istraživanju je sudjelovalo 116 djece (58 djece koja mucaju i 58 djece koja ne mucaju) kronološke dobi od deset godina. Upotrijebljen je neformalni test ekspresivnih jezičnih sposobnosti. Rezultati su pokazali statistički značajne razlike u složenosti rečeničnih struktura između skupina

– djeца која mucaju upotrebljavala су jednostavnije rečenice. Također, djeца која mucaju postigla su statistički značajno niža postignuća na zadatku koji je ispitivao uporabu posvojnih zamjenica. Autorice ovoga istraživanja smatraju da dobiveni rezultati sugeriraju da djeца školske dobi koja mucaju blago kasne u morfološkim i sintaktičkim vještinama u odnosu na svoje vršnjake tečnoga govora, što je u skladu s rezultatima istraživanja provedenih uglavnom na engleskome jeziku. Stoga autorice ističu mogućnost postojanja podgrupe djece koja mucaju, a čije su jezične vještine unutar dobnih granica, ali unatoč tome pokazuju blago kašnjenje u pojedinim jezičnim domenama u odnosu na svoje vršnjake koji ne mucaju. Slični rezultati dobiveni su i u istraživanju Wall (1980, prema Bloodstein i Bernstein Ratner, 2008) koje je pokazalo da djeца koja mucaju rabe jednostavne, "nezrelje" rečenice u odnosu na vršnjake koji ne mucaju. Međutim, uzorak ispitanika u ovom je istraživanju bio mali, sastojao se od četiri ispitanika koja mucaju i četiri ispitanika kontrolne skupine. Brojna su istraživanja pokazala da je učestalost netečnosti veća na duljim i složenijim iskazima. Yaruss (1999) zaključuje da je povećanje duljine i složenosti iskaza u statistički značajnoj korelaciji s povećanjem mucanja. Međutim, navodi da samo duljina i složenost ne mogu u potpunosti predvidjeti pojavu mucanja tijekom razgovora. Maske-Cash i Curlee (1995) navode da sintaktički čimbenici imaju veći učinak na mucanje kod djece s udruženim jezičnim i/ili govornim poremećajem.

Brojna su istraživanja uspoređivala dječu koja mucaju i kontrolnu skupinu u sposobnosti obrade rečenice. Ta su istraživanja pokazala da je djeci koja mucaju potrebno više vremena za započinjanje rečenice, odnosno da im je potrebno više vremena za planiranje rečenice (Logan, 2003; Postma, Kolk i Povel, 1990). Također, istraživanja metajezičnih sposobnosti pokazala su slabija postignuća djece koja mucaju na zadatku prosudbe gramatičke točnosti rečenica. Uz to, Cuadrado i Weber-Fox (2003) su tijekom takvoga zadatka uočili atipične elektrofiziološke odgovore na KEP-u (kognitivni evocirani potencijali; engl. *event-related potential – ERP*). Anderson i Conture (2004) istraživali su vještine označavanja rečenica kod mlađe djece koja mucaju pomoću paradigmе rečeničnoga usmjeravanja (engl. *sentence-structure priming paradigm*). Navedeni rezultati pokazuju da dječa koja mucaju mogu imati teškoće s brzim i učinkovitim planiranjem i/ili prizivanjem rečeničnih jedinica, što može doprinositi pojavi netečnosti u govoru.

Potaknuti nejednoznačnim rezultatima istraživanja i njihovim metodološkim nedostacima, Ntourou i suradnici (2011) proveli su meta-analizu velikoga broja studija jezičnih sposobnosti djece koja mucaju u dobi od dvije do osam godina. Nakon

pregleda velikoga broja istraživanja isključili su ona koja nisu uključivala kontrolnu skupinu ispitanika te ona koja su uključivala ispitanike s ispodprosječnim jezičnim postignućima (takvima koji udovoljavaju kriterijima razvojnoga jezičnog poremećaja). Također, uzeli su u obzir samo ona istraživanja koja su navodila rezultate u kvantitativnome obliku. Navedene kriterije su ispunjavala 22 istraživanja te su ta istraživanja uključena u meta-analizu. Rezultati su pokazali da djeca koja mucaju postižu statistički značajno slabije rezultate na mjerama općih jezičnih sposobnosti, receptivnoga i ekspresivnoga rječnika te prosječnoj duljini iskaza. Na ostalim mjerama sintaktičke složenosti razlike nisu utvrđene. Autori zaključuju da djeca koja mucaju ne pokazuju klinički značajne jezične teškoće, već suptilne, ali relativno dosljedne razlike u jezičnim sposobnostima u usporedbi s vršnjacima urednoga govornog razvoja. Suprotno tome, Nippold (2012) je na temelju pregleda prijašnjih istraživanja zaključila da djeca koja mucaju pokazuju širok raspon jezičnih sposobnosti (prosječne, ispodprosječne i iznadprosječne), da jezični poremećaji nisu povezani s početkom i razvojem mucanja te da mucanje nema ili ima vrlo mali utjecaj na jezični razvoj. Nippold predlaže alternativno objašnjenje o nestabilnom motoričkom sustavu koji otežano ostvaruje jezični plan. Međutim, ovo istraživanje samo sabire rezultate prijašnjih istraživanja, a ne uzima u obzir metodologiju tih istraživanja, odnosno moguće metodološke nedosljednosti, primjerice, one vezane uz odabir sudionika.

Jedno objašnjenje različitih rezultata istraživanja donose istraživači koji ističu da mucanje može biti rezultat suptilnih teškoća ili teškoća u jezičnoj obradi odgovornih za pretvaranje riječi odabranih za izgovor u njezine segmentalne (fonemske) i suprasegmentalne (prozodijske) obrasce (pregled dostupan u: Yairi i Seery, 2015). Drugim riječima, tvrdi se da i djeca koja mucaju, a nemaju dodatan jezični poremećaj, pokazuju otklon od urednoga jezičnog funkcioniranja. Dijete može imati odgovarajući rječnik te u potpunosti usvojen fonološki sustav svojega jezika, ali može imati poteškoća u prizivanju i integraciji jezičnih elemenata tijekom govora, što narušava njegovu tečnost. Dakle, ističu se dvije vrste mogućih teškoća u jezičnoj obradi – teškoće fonološkoga i teškoće leksičkoga označavanja (primjerice, Peters, Hulstijn i van Lieshout, 2000). Isti autori navode tri pretpostavke o teškoćama u jezičnoj obradi djece koja mucaju. Prva je pretpostavka o postojanju podgrupa, pri čemu se jedna podgrupa veže za lingvistički, druga za motorički deficit, a treća za kombinaciju motoričkoga i lingvističkoga deficit-a. Druga je pretpostavka da je mucanje rezultat "sukoba" između lingvističkih i motoričkih elemenata, odnosno prevelikih zahtjeva za jezičnu obradu ili motoričku izvedbu. Treća je pretpostavka da

do mucanja dolazi zbog raskoraka između jezične kompetencije i jezične izvedbe. Ta se prepostavka odnosi na prethodno spomenute teškoće u prizivanju jezičnih elemenata tijekom jezične proizvodnje.

S obzirom na dosadašnja istraživanja te njihove metodološke razlike, nije sasvim jasno jesu li dobiveni rezultati koji govore o slabijemu jezičnom znanju djece koja mucaju rezultat stvarnih razlika ili neprepoznatosti njihovoga dodatnoga jezičnog poremećaja. Ostaju i neodgovorena pitanja o razlikama djece koja mucaju i njihovih vršnjaka urednoga govornog razvoja na razini jezične obrade.

1.2. Povezanost jakosti mucanja i jezičnih sposobnosti

Dosadašnja istraživanja pokazala su da ne postoji jasna povezanost jakosti mucanja i jezičnih sposobnosti. Gregg i Yairi (2012) istraživali su postoji li povezanost između fonoloških vještina i obilježja početnoga mucanja (vrste i duljine netečnosti) te postoji li povezanost između razine fonoloških sposobnosti i ukupne jakosti mucanja. U istraživanju je sudjelovalo 29 djece koja mucaju – 15 s blagim i 14 s umjerenim fonološkim odstupanjima. Rezultati su pokazali da nema statistički značajne povezanosti između rezultata na fonološkim mjerama i jakosti mucanja. Anderson i Conture (2000) istraživali su razlike između 20 djece koja mucaju i 20 djece koja ne mucaju, u dobi od 3;0 do 5;3 godina na standardiziranim testovima ekspresivnoga i receptivnoga jezika (sintaktičkih, semantičkih i fonoloških sposobnosti) i receptivnoga rječnika. Rezultati su pokazali da je razlika između mjera ekspresivnoga/receptivnoga jezika i receptivnoga rječnika veća u skupini djece koja mucaju, ali nije u korelaciji s ukupnom jakošću mucanja.

1.3. Cilj istraživanja

Iako ideja o povezanosti mucanja i jezika potiče istraživanja već dugi niz godina, rezultati dosadašnjih istraživanja nisu jednoznačni. Neka su istraživanja pokazala da su sintaktičke sposobnosti djece koja mucaju slabije, dok druga nisu utvrdila razlike u odnosu na njihove vršnjake urednoga govornog razvoja. Međutim, dosadašnja istraživanja uvelike se razlikuju u istraživačkoj metodologiji, što je mogući razlog različitim rezultatima.

Prvi je cilj ovoga rada ispitati sintaktičke sposobnosti djece koja mucaju te utvrditi razlikuju li se one u odnosu na djecu koja ne mucaju. Jezično znanje mjerit će se standardiziranim jezičnim testom. Uporabom pripovijedanja ispitat će se kako se jezično znanje integrira u proizvodnji diskursa. Prepostavke su oblikovane na temelju

psiholingvističkih teorija mucanja koje ističu da se jezične teškoće djece koja mucaju neće odraziti na njihovo jezično znanje.

Drugi je cilj ispitati u kakvoj su povezanosti jezične sposobnosti djece koja mucaju i jakosti njihovoga mucanja. S obzirom na to da do sada nije provedeno slično istraživanje u hrvatskome jeziku, ovaj će rad biti doprinos novim spoznajama o jezičnim osobitostima djece koja mucaju te će se na temelju dobivenih rezultata ukazati na važnost usmjeravanja logopedske terapije i na jezične aspekte mucanja, a ne samo na tradicionalno najčešća poboljšavanja poput smanjivanja netečnosti, reduciranja mucajućih dogadaja i poboljšavanja emocionalne prilagodenosti.

Prepostavke ovoga istraživanja su:

H1: Ne postoji statistički značajna razlika u postignućima djece koja mucaju i djece koja ne mucaju na standardiziranim testovima receptivnih sintaktičkih sposobnosti.

H2: Djeca koja mucaju postižu statistički značajno niža postignuća na mjerama jezične produktivnosti te na mjerama sintaktičkoga razvoja iz uzorka pripovjednoga diskursa.

H3: Ne postoji statistički značajna povezanost između sintaktičkih sposobnosti i jakosti mucanja.

2. METODOLOGIJA

2.1. Uzorak ispitanika

U istraživanju su sudjelovale dvije skupine ispitanika – 15 djece koja mucaju (DKM) i 15 djece koja ne mucaju (DKNM). Ispitanici su bila djeca školske dobi, između 7;0 i 11;11 godina (prosječna dob 9;2). Osim navedene dobi, kriteriji za odabir ispitanika u skupinu djece koja mucaju bili su dijagnoza mucanja, odsustvo dijagnosticiranih jezičnih poremećaja ili sumnje na jezične poremećaje, odsustvo ozbiljnijih zdravstvenih teškoća u anamnezi te odsustvo dvojezičnosti. Dio ispitanika ($N = 8$) iz skupine djece koja mucaju prikupljen je u Općoj bolnici Varaždin, gdje su ispitanici sudjelovali u grupnoj terapiji mucanja M.I.R. (Metoda intenzivne rehabilitacije). Drugi dio ispitanika ($N = 4$) iz skupine djece koja mucaju prikupljen je za vrijeme trajanja VaLMod programa terapije mucanja u VaLMod centru logopedija u Varaždinu. Treći dio ispitanika ($N = 5$) prikupljen je u II. osnovnoj školi Varaždin gdje su bili uključeni i u logopedsku terapiju. U istoj je školi prikupljen i uzorak kontrolne skupine ($N = 17$). Kriteriji za odabir kontrolne skupine bili su odsustvo

mucanja, dijagnosticiranih jezičnih poremećaja ili sumnje na jezične poremećaje, odsustvo težih zdravstvenih teškoća te odsustvo dvojezičnosti. Prvotno je uzorak ispitanika uključivao 34 ispitanika (17 djece koja mucaju i 17 djece urednoga govornog razvoja), nakon čega su isključeni ispitanici koji su postizali ispodprosječna postignuća na standardiziranim jezičnim testovima. Ispitanici koji su na barem jednom standardiziranom testu (TROG-2:HR; PPVT-III-HR) postigli rezultat od – 1,25 standardne devijacije ili niži u odnosu na normativne podatke nisu sudjelovali u dalnjem istraživanju te je ukupan broj ispitanika bio 30 (15 djece koja mucaju i 15 djece koja ne mucaju). Podatci o ispitanicima prikazani su u Tablici 1. Skupina djece koja mucaju i kontrolna skupina izjednačene su prema spolu i dobi (+/- 2 mjeseca). Raspon obrazovanja majke i oca u skupini djece koja mucaju kreće se od završene osnovne škole do magisterija ili doktorata. U kontrolnoj skupini obrazovanje majke i oca u rasponu je od osnovne škole do više i visoke stručne spreme. Roditelj svakoga djeteta dao je suglasnost za sudjelovanje u istraživanju.

Tablica 1. Osnovni podaci o skupinama ispitanika

Table 1. Characteristics of participants

Skupina / Group	Djeca koja mucaju (DKM) / Children who stutter (CWS)	Djeca koja ne mucaju (DKNM) / Children who do not stutter (CWDS)
Broj sudionika	15	15
Spol	M = 11, Ž = 4	M = 11, Ž = 4
Kronološka dob (prosjek)	9,19 (9;2)	9,23 (9;2)
Kronološka dob (raspon)	7;3-11;2	7;3-11;2

2.2. Mjerni instrumenti

Opći i anamnestički podaci prikupljeni su pomoću upitnika kreiranoga za potrebe ovoga istraživanja, a ispunjavali su ga roditelji svakoga djeteta. Pitanja iz upitnika obuhvaćala su informacije o djetetovoj dobi, ranom jezično-govornom razvoju, zdravstvenim teškoćama, prethodnoj uključenosti u neki oblik terapije, uključenosti u dječji vrtić te o prisutnosti dvojezičnosti. Osim podataka o djetetu prikupljeni su podatci o obitelji, odnosno o stupnju obrazovanja roditelja te broju djece u obitelji i redoslijedu rođenja djeteta.

Nadalje, za istraživanje sintaktičkih sposobnosti upotrijebljen je standardizirani *test razumijevanja gramatike* (TROG-2:HR; Bishop, Kuvač Kraljević, Hržica,

Kovačević i Kologranić Belić, 2014). *Test razumijevanja gramatike* (TROG-2:HR) je receptivni jezični test kojim se ispituje razumijevanje sintaktičkih struktura i morfosintakse u usporedbi s vršnjacima. Testom se ispituje razumijevanje, što znači da sudionik ne daje usmeni odgovor, već samo pokazuje na sliku ili izgovara broj povezan uz nju, što znači da na izvršavanje zadatka ne utječe mucanje.

Za ispitivanje jezične produktivnosti te određenje mjera sintaktičkoga razvoja upotrijebljena je hrvatska inačica višejezičnoga instrumenta za procjenu pripovijedanja (*Multilingual Assessment Instrument for Narratives* – MAIN; Gagarina i sur., 2012; hrvatska inačica Hržica i Kuvač Kraljević, 2012). Radi se o višejezičnom materijalu za ispitivanje pripovijedanja, odnosno pripovjednih vještina djece koja usvajaju jedan ili više jezika. Sastoji se od četiri usporedne priče – dvije za pripovijedanje (Ptice i Koze) i dvije za prepričavanje (Mačka i Pas). U ovome su istraživanju upotrijebljene samo priče za pripovijedanje u kojima se pripovijedanje potiče uporabom slikovnoga predloška. Svaki se slikovni predložak sastoji od niza od šest slika. Mjere sintaktičke složenosti koje se mogu izračunati na uzorcima pripovijedanja pokazale su se razlikovnima u istraživanjima djece različite dobi (primjerice, Justice i sur., 2006; Mäkinen, Loukusa, Nieminen, Leinonen i Kunnari, 2014) te djece urednoga i narušenoga jezičnog razvoja (primjerice za hrvatski Kelić, Hržica i Kuvač Kraljević, 2012).

Za utvrđivanje jakosti mucanja primijenjen je instrument za ispitivanje jakosti mucanja (*Stuttering Severity Instrument – Fourth Edition* (SSI-4; Riley, 2009)) koji mjeri ukupnu jakost mucanja na temelju tri bihevioralne mjere. Prva mjera je učestalost mucajućih netečnosti, izražena kao postotak mucajućih slogova. Druga mjera je trajanje koje predstavlja prosječno trajanje tri najdulja trenutka mucanja. Treća mjera su tjelesne popratne pojave podijeljene u četiri skupine – ometajući zvukovi, facijalna ekspresija, pokreti glave i pokreti ekstremiteta. Tjelesne popratne pojave ocjenjuju se na ljestvici 0 – 5, na temelju stupnja distraktibilnosti. Rezultati triju navedenih mjera pretvaraju se u bodove koji se, ovisno o dobi ispitanika, pretvaraju u percentile i pripadajući stupanj jakosti mucanja (jako blago, blago, umjерeno, teško, jako teško).

2.3. Postupak ispitivanja

U prvom dijelu ispitivanja ispitanici su ispitani testovima TROG-2:HR i PPVT-III-HR standardnom procedurom. Ispitanici koji su postigli ispodprosječne rezultate ($-1,25$ standardne devijacije ili niže u odnosu na normativne podatke) na barem jednom testu

nisu bili uključeni u daljnje istraživanje. Ovako su se iz istraživanja isključili sudionici za koje se može posumnjati da uz mucanje imaju i dodatan (dijagnosticiran ili neprepoznat) jezični poremećaj. Jedna od primjedaba u ranijim istraživanjima jezičnih sposobnosti djece koja mucaju bila je upravo ta da su dobiveni rezultati niži zbog toga što su u uzorak uključena djeca koja uz mucanje imaju i neki jezični poremećaj. Naime, prijašnja su istraživanja utvrdila da su jezični poremećaji djece koja mucaju znatno češći nego kod djece urednoga jezičnog razvoja. Tako je Nippold (2012) utvrdila da je za razvojni jezični poremećaj kod djece koja mucaju riječ o 30 % naspram 7 % u populaciji djece urednoga jezičnog razvoja.

U drugom dijelu primijenjen je MAIN. Ispitivanje je provedeno u uvjetima nezdržane pažnje (engl. *non-shared attention*). Ispitanicima su na prijenosnome računalu bila prikazana četiri polja označena brojevima, a svaki broj označavao je jednu priču. Zadatak svakoga djeteta bio je odabrat jednu od ponuđenih priča tako da ispitač ne vidi koju priču je dijete odabralo. Međutim, sve su priče bile iste i ispitač je znao o kojoj se priči radi. Svrha je takvoga ispitivanja da dijete misli da ispitač ne zna sadržaj priče, čime se kontrolira utjecaj zajedničkoga znanja na informacije koje će dijete dati ispitaču (engl. "*the effect of shared knowledge*"). Nakon odabira priče na prijenosnome računalu prikazan je niz slika koje su ispitanici najprije pregledali, a zatim proveli zadatak pripovijedanja. S obzirom da literatura navodi da je mucanje češće na duljim i manje učestalim riječima, duljim i složenijim rečenicama (Ward, 2006) te da djeca koja mucaju izbjegavaju određene glasove i riječi na kojima češće mucaju i biraju kraće i jednostavnije riječi i rečenice kako bi manje mucala (Yairi i Seery, 2015), svi su ispitanici, osim usmenoga, proveli ovaj zadatak i pisanim putem. Nasumičnim odabirom dio ispitanika usmeno je pripovijedao priču Koze (A), a pisano priču Ptice (B), dok je drugi dio ispitanika pripovijedao usmeno priču Ptice (B), a pisano priču Koze (A). Isti je raspored poštivan i pri ispitivanju kontrolne skupine.

Jakost mucanja izračunata je pomoću instrumenta za ispitivanje jakosti mucanja (*Stuttering Severity Instrument – SSI-4*) na temelju videosnimki uzorka pripovijedanja. Učestalost netečnosti izračunata je kao omjer broja mucajućih netečnosti i ukupnoga broja slogova u uzorku. Trajanje je određeno mjeranjem tri najdljje netečnosti i računanjem prosječnoga trajanja tih netečnosti. Tjelesne popratne pojave određene su detaljnom analizom videosnimki. Djeca koja mucaju, polaznici trećega ili višega razreda (čitači), pročitali su i tekst primjeren dobi za određivanje učestalosti mucanja tijekom čitanja.

2.4. Obrada podataka

Prikupljeni snimljeni uzorci pripovijedanja u usmenom i pisanom obliku transkribirani su i kodirani standardnom procedurom u programu za računalnu obradu jezika CHAT (MacWhinney, 2000). Zatim su u programu CLAN (MacWhinney, 2000) izračunate mjere jezične produktivnosti te mjere sintaktičkoga razvoja za svakoga ispitanika. Govor sudionika razdijeljen je na komunikacijske jedinice (engl. *communication unit* – C-unit, Loban, 1966). Naime, govoreni se niz ne može uvijek jasno odvojiti u elemente koji bi odgovarali rečenicama pisanoga teksta. Zbog toga se primijenio sintaktički kriterij kako bi se doobile cjeline unutar teksta za analizu. Takve se cjeline nazivaju komunikacijske jedinice. Jedna komunikacijska jedinica može biti jednostavna sintaktička struktura (ima samo jedan predikat) ili jedna sintaktička struktura nezavisno spojena s drugom (sastavne rečenice, rastavne rečenice, rečenični niz i dr.), pri čemu će svaka struktura koja ima predikat biti izdvojena u zasebnu komunikacijsku jedinicu (primjer 1). No, ako su sintaktičke strukture povezane zavisnosloženom vezom, činit će jednu komunikacijsku jedinicu (Tablica 2.).

Tablica 2. Određivanje komunikacijske jedinice

Table 2. Communication units division

Opis / Description	Komunikacijska jedinica 1 / Communication unit 1	Komunikacijska jedinica 2 / Communication unit 2
Jedna jednostavna sintaktička struktura.	<i>Mama koza ušla je u jezero.</i>	<i>Spasila je kozlića.</i>
Jedna sintaktička struktura spojena nezavisnom vezom s drugom.	<i>Mama koza ušla je u jezero.</i>	<i>I spasila kozlića.</i>
Sintaktičke strukture spojene zavisnom vezom.	<i>Mama koza ušla je u jezero da bi spasila kozlića.</i>	-

Izračunate su dvije mjere sintaktičkoga razvoja, prosječna duljina komunikacijske jedinice te gustoća klauza (engl. *clausal density*). Kao mjera sintaktičkoga razvoja izračunata je prosječna duljina komunikacijske jedinice (PDKJ, engl. *mean lenght of*

communication unit – MLCU). Stavljanjem u omjer ukupnoga broja riječi i ukupnoga broja komunikacijskih jedinica dobiva se mjera PDKJ. Mjera PDKJ pokazatelj je sintaktičke složenosti u jezičnoj proizvodnji. Naime, kao što je prethodno spomenuto, jedna komunikacijska jedinica može biti jednostavna sintaktička struktura, sintaktička struktura nezavisnom vezom povezana s drugom ili sintaktička struktura zavisnom vezom povezana s drugom. Stoga će strukture povezane zavisnosloženom vezom, koja je sintaktički složenija, biti dulja komunikacijska jedinica. Stavljanjem u omjer, dulja komunikacijska jedinica dat će veći PDKJ. Isto tako, ako se upotrebljava više dopuna predikatu, objektu i subjektu (primjerice, atributa i apozicija te priložnih oznaka), broj će riječi u komunikacijskoj jedinici rasti. Jednostavnije rečeno, povećanjem broja složenijih rečeničnih struktura te povećanjem dopuna temeljne sintaktičke strukture, povećat će se i iznos PDKJ-a. Na taj je način mjera PDKJ posredno pokazatelj sintaktičke složenosti.

Gustoća klauza izračunava se tako da se u transkriptu zbroje sve jednostavne sintaktičke strukture (odgovaraju definiciji nezavisne rečenice) te sve zavisne i nezavisne surečenice. Sve se takve sintaktičke strukture jednim imenom nazivaju klauze (prema engleskom *clause*), a određene su kao strukture koje se sastoje od najmanje predikata i subjekta (može biti i neizrečen). Broj klauza podijeli se s ukupnim brojem komunikacijskih jedinica (Gutierrez-Clellen i Hofstetter, 1994; Mäkinen i sur., 2014). Složenije komunikacijske jedinice (takve koje sadrže surečenice povezane zavisnom vezom) imat će veći broj klauza te će tako povećati ukupnu vrijednost mjere *gustoća klauza*. Viši rezultat na toj mjeri znači da je ispitanik u nekom jezičnom uzorku upotrijebio više zavisnosloženih surečenica. Naziv *klauza* nije previše čest, ali se ipak rabi u literaturi na i o hrvatskom jeziku (primjerice, Belaj, 2019). Važno je napomenuti da naziv *gustoća klauza* nije ustaljen u hrvatskome – Trtanj i Kuvač Kraljević (2017) ovu mjeru nazivaju rečeničnom gustoćom. No, s obzirom na to da se rečenice mogu sastojati od više klauza, smatramo naš naziv prikladnijim.

Za određivanje jakosti mucanja upotrijebljen je rezultat na instrumentu za ispitivanje jakosti mucanja (*Stuttering Severity Instrument* – SSI-4). U ovom istraživanju za obradu podataka upotrijebljen je sirovi rezultat. S obzirom na to da svi ispitanici pripadaju istoj dobnoj skupini normalnih podataka (djeca školske dobi), ovakva je odluka moguća i opravdana.

Vrijednosti mjera sintaktičke složenosti i rezultati na testovima TROG-2:HR i SSI-4 uneseni su i statistički obrađeni pomoću programa *IBM Statistical Package for the Social Sciences* (SPSS), inačica 20. Konačne zavisne varijable prikazane su u Tablici 3.

Tablica 3. Prikaz i opis zavisnih varijabli
Table 3. Description of dependent variables

Kratica / Acronym	Opis varijable / Description of variable
TROG-2:HR	standardizirani rezultat na <i>testu razumijevanja gramatike</i>
PDKJ_usm	prosječna duljina komunikacijske jedinice tijekom pripovijedanja usmenim putem
PDKJ_pis	prosječna duljina komunikacijske jedinice tijekom pripovijedanja pisanim putem
GS_usm	gustoća klauza tijekom pripovijedanja usmenim putem
GS_pis	gustoća klauza tijekom pripovijedanja pisanim putem
JM	jakost mucanja

S ciljem odluke o odabiru parametrijske ili neparametrijske statistike za obradu podataka, provjereni su statistički preduvjeti o normalnosti raspodjele za svaku varijablu. Kriterij za prihvaćanje normalnosti raspodjele bio je da su vrijednosti spljoštenosti krivulje (engl. *kurtosis*) i asimetričnosti krivulje (engl. *skewness*) u rasponu od -1,5 do 1,5. Utvrđeno je da varijable prate normalnu raspodjelu te se njihova analiza provela parametrijskim testovima (t-test za nezavisne uzorke i Pearsonov koeficijent korelacije).

3. REZULTATI

Za sve varijable izračunati su podatci deskriptivne statistike. Na TROG-2:HR testu srednja vrijednost (aritmetička sredina, M) standardiziranih rezultata neznatno je veća kod djece koja ne mucaju. Raspon rezultata veći je u skupini djece koja mucaju, kao i raspršenje rezultata oko srednje vrijednosti (standardna devijacija, SD). I na mjeri sintaktičkoga razvoja (PDKJ) i na mjeri gustoće klauza srednji je rezultat djece koja

mucaju nešto viši od srednjega rezultata u skupini djece koja ne mucaju. S ciljem kontrole mogućega utjecaja mucanja na odabir riječi i duljinu iskaza izračunati su deskriptivni podatci za mjere sintaktičkoga razvoja na pripovijedanju pisanim putem. Na obje mjere skupina djece koja mucaju pokazuje više srednje vrijednosti. Raspršenja rezultata su veća kod djece koja mucaju u odnosu na djecu koja ne mucaju na mjeri PDKJ, ali manja na mjeri GS.

Tablica 4. Osnovni statistički pokazatelji za rezultate na testu TROG-2:HR i za mjeru sintaktičkoga razvoja

Table 4. Descriptive statistics for TROG-2:HR and for indices of syntactic development

Varijabla / Variable	Skupina / Group	Min	Max	M	SD
TROG-2:HR	DKM	83	113	99,87	11,67
	DKNM	83	108	100,07	8,91
PDKJ_usm	DKM	4,90	7,50	6,07	0,84
	DKNM	4,00	7,46	5,43	1,04
GS_usm	DKM	1	1,33	1,09	0,1
	DKNM	1	1,31	1,07	0,1
PDKJ_pis	DKM	3,75	8,50	6,19	1,38
	DKNM	3,43	9,14	5,29	1,35
GS_pis	DKM	1	1,25	1,08	0,04
	DKNM	1	1,57	1,07	0,1

Naposljeku, u skupini djece koja mucaju pomoću instrumenta za ispitivanje jakosti mucanja (*Stuttering Severity Instrument – SSI-4*) određena je jakost njihovoga mucanja. Deskriptivni podatci prikazani su u Tablici 5. Iz tablice je vidljivo da se ispitana djeca koja mucaju uvelike razlikuju po obilježjima svoga mucanja, odnosno u ukupnoj težini mucanja. Rezultati se kreću u rasponu od 9 (što odgovara jako blagom mucanju) do 31 (što označava teško mucanje), a sudionici su relativno ravnomjerno raspoređeni u rasponu rezultata.

Tablica 5. Osnovni statistički pokazatelji rezultata na instrumentu za ispitivanje jakosti mucanja – 4. izd. (sirovi rezultat)

Table 5. Descriptive statistics for Stuttering Severity Instrument – 4th Edition (raw result)

Skupina / Group	Min	Max	M	SD
DKM	9	31	19,47	6,23
Pojedinačni rezultati	Broj sudionika			
9	1			
12	1			
13	1			
16	2			
17	2			
18	1			
21	3			
26	2			
28	1			
31	1			

Za daljnju statističku obradu proveden je t-test s ciljem utvrđivanja razlika između djece koja mucaju i kontrolne skupine. Vrijednosti testova za pojedine varijable prikazane su u Tablici 6. Primjenom t-testa utvrđeno je da se skupine ispitanika statistički značajno ne razlikuju u rezultatima na testu TROG-2:HR (Tablica 6.).

Analizom rezultata na zadatku usmenoga pripovijedanja nisu utvrđene statistički značajne razlike na mjerama PDKJ_usm i GS_usm. Na zadatku pripovijedanja pisanim putem na mjerama PDKJ_pis i GS_usm nisu utvrđene statistički značajne razlike (Tablica 6.)

Tablica 6. Rezultati t-testa za sve mjere za djecu koja mucaju i njihove vršnjake koji ne mucaju (kontrolna skupina)

Table 6. Results of the t-test for all measures for children who stutter and for children who do not stutter (control group)

Varijabla / Variable	t-test		
TROG-2:HR	t = -0,05	df = 26,18	p = 0,95
PDKJ_usm	t = 1,87	df = 28	p = 0,07
PDKJ_pis	t = 1,80	df = 28	p = 0,08
GS_usm	t = 0,37	df = 28	p = 0,72
GS_pis	t = -0,10	df = 28	p = 0,92

*p < 0,05

Kako bi se utvrdilo postoji li povezanost između jačine mucanja te mjera sintaktičkoga razvoja provedena je Pearsonova korelacija. Rezultati su pokazali da niti prosječna duljina komunikacijske jedinice niti gustoća klauza nisu povezane s jakosti mucanja.

4. RASPRAVA

Istraživanja veze jezika i mucanja imaju dugu povijest, a temeljno pitanje u tim istraživanjima jest posjeduju li djeca koja mucaju jednake jezične sposobnosti kao njihovi vršnjaci urednoga govornog razvoja ili su njihove sposobnosti slabije, što bi mogao biti jedan od predispozicijskih čimbenika za razvoj mucanja. Točnije rečeno, postoje najmanje tri mogućnosti u proučavanju veze jezika i mucanja: a) nedostatci u jezičnim sposobnostima uzrokuju mucanje, b) jezični poremećaji i mucanje uzrokovani su jednim zajedničkim problemom središnje neurološke obrade i c) jezične sposobnosti i mucanje nisu uzročno povezani (Watkins i Yairi, 1997). Iako rezultati dosadašnjih istraživanja nisu jednoznačni, istraživanja često zaključuju da djeca koja mucaju pokazuju jezične sposobnosti unutar urednih granica ili čak iznadprosječne, ali uz suptilne teškoće u određenim jezičnim područjima ili uz raskorak između pojedinih jezičnih područja (Silverman i Bernstein Ratner, 2002).

S ciljem utvrđivanja postojanja suptilnih razlika u jezičnim sposobnostima, u ovome istraživanju ispitane su sintaktičke sposobnosti djece koja mucaju, a čije su opće jezične sposobnosti unutar granica urednoga jezičnog razvoja. Pažljivom homogenizacijom uzorka u istraživanje su uključena samo djeca kod koje ne postoje dodatni jezični poremećaji, a raspon je jakosti mucanja širok. Primijenjene su različite metode procjene sintaktičkih sposobnosti djeteta, uključujući razumijevanje, mjereno standardiziranim testom, i proizvodnju, mjerenu potaknutim pripovijedanjem. Kako bi se izbjegao utjecaj mucanja na govorenju jezičnu izvedbu, pripovijedanje je ispitano i usmeno i pismeno.

U rezultatu na standardiziranome testu sintaktičkih sposobnosti djeca koja mucaju pokazala su nešto slabije rezultate, ali oni nisu bili statistički značajni u odnosu na rezultate njihovih vršnjaka koji ne mucaju. Ovakvi rezultati sukladni su postavljenoj hipotezi te govore u prilog dosadašnjih istraživanja koja ne pronalaze razlike u sintaktičkim sposobnostima djece koja mucaju i djece urednoga jezičnog razvoja (pregled dostupan u: Bloodstein i Bernstein Ratner, 2008).

Jedan od načina ispitivanja samostalne jezične proizvodnje jest analiza djetetovog pripovijedanja. Tijekom pripovijedanja dijete mora organizirati diskurs na više različitih razina (mikrostrukturalnoj i makrostrukturalnoj), što je složen jezični zadatak pa teškoće u pojedinim jezičnim područjima postaju uočljivije. Stoga se u ovom istraživanju očekivalo da će se analizom pripovjednoga materijala utvrditi statistički značajne razlike između skupina ispitanika na mjerama sintaktičkoga razvoja. No, na mjerama sintaktičkoga razvoja (prosječna duljina komunikacijske jedinice usmeno i pisano, gustoća kluza usmeno i pisano) nisu utvrđene statistički značajne razlike između skupina ispitanika. Takvi rezultati govore u prilog istraživanja koja ne pronalaze razlike u sintaktičkim sposobnostima djece koja mucaju i djece urednoga jezičnog razvoja (pregled dostupan u: Bloodstein i Bernstein Ratner, 2008). Važno je dodati da su neki autori dovodili u pitanje i pouzdanost mjere prosječna duljina iskaza (engl. *mean lenght of utterance* – MLU) te njoj srodnih mjera (engl. "*MLU like measures*"), navodeći da one nisu dobri pokazatelji gramatičkoga razvoja nakon određene starosti djeteta ili nakon određenoga stupnja jezičnoga razvoja (Klee i Fitzgerald, 1985; Rondal, Ghiotto, Bredart i Bachelet, 1987). Prema Brownu (1973) pouzdanost MLU-a opada nakon što prijeđe vrijednost 4,00. Međutim, novija istraživanja (Rice i sur., 2010) dovode do suprotnih zaključaka, navodeći da su MLU i njemu srodne mjere pouzdani i valjni pokazatelji sintaktičkoga razvoja bez obzira

na dob i vrijednosti tih mjera, te se stoga interpretacija rezultata ovoga istraživanja može smatrati opravdanom.

Dobiveni rezultati, koji ne pokazuju razlike u sintaktičkim sposobnostima djece koja mucaju i njihovih vršnjaka urednoga govornog razvoja, u skladu su s prijašnjim istraživanjima u kojima se uzorak ispitanika birao tako da se isključuju osobe s dodatnim jezičnim poremećajima (Ntourou i sur., 2011). Sukladni su i psiholingvističkim teorijama (primjerice, Peters i sur., 2000), prema kojima djeca koja mucaju nemaju teškoća u jezičnome znanju, odnosno u rječničkome znanju i znanju sintaktičkih pravila, već u procesima koji su odgovorni za pristup i uporabu toga znanja tijekom samostalne jezične proizvodnje. Razlikovanje sustava odgovornoga za jezičnu obradu, nasuprot onome odgovornom za znanje jezičnih elemenata, važno je jer su ti sustavi neovisni, odnosno teškoća u jednomu sustavu može biti prisutna neovisno o drugome (Yairi i Seery, 2015). Suptilne teškoće jezične obrade i priziva teže je otkriti na standardiziranim testovima te zadatcima proizvodnje, ali mogu postati uočljiviji u drugačijim načinima ispitivanja, temeljenima na obradi.

U ovome se istraživanju očekivalo da ne postoji povezanost između jezičnih sposobnosti i jakosti mucanja te su ta očekivanja i potvrđena. Dobiveni su rezultati u skladu s prethodnim istraživanjima (Anderson i Conture, 2000; Gregg i Yairi, 2012). Naime, modeli koji uključuju objašnjenja mucanja jezičnim čimbenicima uključuju jezik kao samo jednu od sastavnica. Preciznije, posljednjih dvadesetak godina istraživači i stručnjaci sve više zagovaraju višedimenzionalne modele mucanja koji objašnjavaju da na početak i na razvoj mucanja utječe interakcija brojnih čimbenika (na primjer, *CALMS Model*; Healey, Trautman i Susca, 2004). Drugim riječima, svaki čimbenik može u jedinstvenoj kombinaciji kod svakoga pojedinca u različitom stupnju utjecati na učestalost, vrstu i trajanje mucanja.

Iako ovo istraživanje nije pronašlo razlike u sintaktičkim sposobnostima djece koja mucaju to ne znači da ne mogu postojati razlike na drugim jezičnim razinama. Moguće je da djeca koja mucaju pokazuju suptilne teškoće samo u pojedinim jezičnim područjima, primjerice u leksičkim sposobnostima ili fonologiji (Yairi i Seery, 2015). Dosad je znatno veći broj istraživanja proveden radi proučavanja leksičkih sposobnosti te su u tim istraživanjima češće utvrđivane razlike između skupina ispitanika. Pojedini su autori isticali i neravnotežu slabijih leksičkih sposobnosti i relativno dobrih sintaktičkih sposobnosti (Anderson i Conture, 2000). Buduća bi se istraživanja stoga mogla usredotočiti na leksičke i na fonološke sposobnosti djece koja mucaju.

Pri interpretaciji rezultata ovoga istraživanja važno je uzeti u obzir nekoliko njegovih ograničenja. Prvo, metoda analize jezičnih uzoraka kao mjera proizvodnje sintaktičkih struktura ima svojih ograničenja jer govornik može kontrolirati svoju proizvodnju birajući konstrukcije koje mu najviše odgovaraju. Drugim riječima, za razliku od, primjerice, testa jezične proizvodnje kojim se gleda raspon raspoloživih oblika, i u koji se mogu uključiti različite rečenične strukture, u pripovjednom uzorku promatra se stvarna uporaba jezika (što je velika prednost ove metode) koja je pod kontrolom govornika. Buduća istraživanja mogla bi uključiti i drugačije metode ispitivanja proizvodnje sintakse (primjerice, zadatak ponavljanja rečenica kao što je *LITMUS Sentence Repetition Tasks* – <https://www.litmus-srep.info/>). Drugo ograničenje istraživanja jest da je uzorak u istraživanju relativno malen (iako ne i u kontekstu ranijih istraživanja jezičnih sposobnosti djece koja mucaju) što ograničava mogućnost generalizacije rezultata. Populacija djece koja mucaju je po svojim obilježjima vrlo heterogena, a rezultati dosadašnjih istraživanja jezičnih sposobnosti nisu jednoznačni, stoga bi veći uzorak omogućio pouzdanje statističke analize podataka o njihovim jezičnim sposobnostima. Treći mogući nedostatak ovoga istraživanja jest dob ispitanika. Preporuka je u istraživanjima u uzorak uključiti djecu u dobi blizu početka mucanja, u razdoblju intenzivnoga jezičnog razvoja. Zbog prirode zadatka uključena su starija djeca, no u školskoj dobi teško je izbjegći učinak iskustva formalnoga obrazovanja, a obično je za stariju djecu i vjerojatnije da su uključena u logopedsku terapiju. Četvrto, raspon dobi u ovome istraživanju relativno je širok. Iako svaki ispitanik u skupini djece koja mucaju ima svoj par u kontrolnoj skupini, koji je izjednačen prema dobi i spolu, u obzir valja uzeti činjenicu da jezični razvoj ne teče linearno, već je veoma promjenljiv te u različitoj dobi dolazi do razvoja različitih jezičnih sastavnica. Taj se problem posebno odnosi na proizvodnju diskursa čiji je tijek razvoja od velikoga istraživačkog interesa i danas. I na kraju, utjecaj na rezultate istraživanja moglo je imati i provođenje testiranja za vrijeme trajanja grupne terapije mucanja. Naime, u skupini djece koja mucaju 11-ero od 15-ero djece prethodno je bilo uključeno u logopedsku terapiju zbog mucanja ili zbog mucanja i artikulacijskih poremećaja. Iako ne postoje sustavni i pouzdani podatci o načinu provođenja terapije mucanja u Hrvatskoj, analizirajući metode koje se najčešće rabe može se zaključiti da su one neodvojive od poticanja općega jezično-govornog razvoja. U terapiji mucanja se tehnikе oblikovanja tečnosti i tehnikе modifikacije mucanja uvježbavaju na određenome jezičnom materijalu koji je često dobiven na temelju opisivanja slike, pripovijedanja prema nizu slika i prepričavanja prošloga događaja

(Lattermann, 2003). Upravo na takvome zadatku provedeno je ovo istraživanje te je dobivene rezultate moguće tumačiti i utjecajem uvježbavanja tijekom terapije. Prikupljanje podataka prije početka terapije bi, barem dijelom, moglo smanjiti utjecaj prethodne uključenosti u terapiju jer bi podatci o jakosti mucanja, ali i o jezičnim sposobnostima bili pouzdaniji.

5. ZAKLJUČAK

U ovome istraživanju uspoređene su sintaktičke sposobnosti djece koja mucaju sa sposobnostima njihovih vršnjaka koji ne mucaju. Nisu pronađene razlike između skupina ni na jednoj od mjera sintaktičkih sposobnosti. Takvi rezultati govore u prilog tome da se jezične vještine djece koja mucaju ne razlikuju od njihovih vršnjaka koji ne mucaju ili barem da takve razlike ne mogu biti ustanovljene metodama koje su se rabile. Velik broj dosadašnjih istraživanja utvrđio je suptilne teškoće u pojedinim područjima jezičnoga razvoja djece koja mucaju, dok druga istraživanja nisu utvrdila razlike u jezičnim sposobnostima između djece koja mucaju i njihovih vršnjaka urednoga govornog razvoja. Moguće je da samo dio djece koja mucaju pokazuje posebna jezična obilježja, što je u skladu s višedimenzionalnim modelima mucanja. Iako su gorone netečnosti osnovna značajka toga poremećaja, ono nije samo govorni poremećaj. Mucanje je definirano ispreplitanjem govornih, jezičnih, kognitivnih, socio-emocionalnih, fizioloških i brojnih drugih čimbenika, što kao rezultat nosi veliku heterogenost u populaciji djece koja mucaju (Yairi, 2007). Određenje podvrsta mucanja od velike je kliničke i istraživačke važnosti zbog otkrivanja mogućih različitih puteva razvoja mucanja ovisno o podvrsti (Seery, Watkins, Mangelsdorf i Shigeto, 2007).

Ovo istraživanje pokazalo je nepostojanje razlika u sintaktičkim sposobnostima djece koja mucaju i njihovih vršnjaka urednoga govornog razvoja, uz prethodno jasno postavljene isključujuće kriterije temeljene na rezultatima standardiziranih testova. Kliničke implikacije ovakvoga istraživanja trebale bi ići u pravcu preporuke dijagnostike jezičnih sposobnosti kao sastavnoga dijela dijagnostičkih postupaka u radu s djecom koja mucaju. Važno je napomenuti da se terapije mucanja tradicionalno usmjeravaju na smanjivanje netečnosti, reduciranje mucajućih događaja i poboljšavanje emocionalne prilagođenosti. Uključivanjem procjene jezičnih sposobnosti u dijagnostiku mucanja identificirala bi se djeca s dodatnim jezičnim poremećajima, s visokom prevalencijom u populaciji, ali i precizno odredila pogodjena

jezična područja. To bi imalo izravan utjecaj na planiranje terapije koja bi uključivala i rad na poticanju jezičnih vještina.

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Ana Leko Krhen, Gordana Hržica*ana.leko@erf.unizg.hr, gordana.hržica@erf.unizg.hr*Faculty of Education and Rehabilitation Sciences, University of Zagreb
Croatia**Natalija Kokot***natalija.kutnjak@gmail.com*VaLMod Center – Speech and Language Pathology, Varaždin
Croatia

Syntactic skills of children who stutter

Summary

Stuttering occurs when fluent speech is disrupted by repetition of sounds, syllables, or words, prolongation of sounds and interruptions in speech known as blocks (Bloodstein & Bernstein Ratner, 2008). Studies on language skills in stuttering bring inconclusive results. Some showed slower language development in children who stutter (CWS), while others did not observe any differences (see Ntourou, Conture, & Lipsey, 2011). Psycholinguistic theories on stuttering point out that CWS should not show differences in language knowledge, but in access to that knowledge. In other words, despite showing typical language knowledge, CWS might have difficulties in retrieving and integrating language elements. The first aim of this study is to examine the syntactic abilities of children who stutter and determine whether they differ from children who do not stutter, using standardized language tests and narrative sample analysis. The second goal is to examine the connection between language abilities and stuttering severity. Participants were CWS ($N = 15$) and age-matched fluent children ($N = 15$), between 7;0 and 11;11 (average age 9;2). Stuttering Severity Instrument, 4th Edition test (SSI-4; Riley, 2009) was used to determine stuttering severity. Test for Reception of Grammar (TROG-2:HR; Bishop et al., 2014) was used for the comprehension of syntax. The Multilingual Assessment Instrument for Narratives (MAIN; Gagarina et al., 2012; Croatian version: Hržica & Kuvač Kraljević, 2012) was used for obtaining narrative samples (written and oral). Mean length of communication unit (MLCU) and clause density (CD) were calculated. Children who stutter did not differ from fluent children on TROG-2:HR, MLCU and CD. No correlation was observed between stuttering severity, MLCU and CD. Although our results point to no difference in language skills between two groups of participants, some limitations, namely lack of data about the length and type of the therapy received, prevent us to fully accept such interpretation.

Keywords: child language, stuttering, syntactic abilities, mean length of communication unit, clausal density

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Agnieszka Kałdonek-Crnjaković

a.kaldonek2@uw.edu.pl

Institute of English Studies, Faculty of Modern Languages
University of Warsaw, Poland

Teaching an FL to students with ADHD

Summary

Teaching foreign languages to students with specific learning difficulties or differences (SpLDs) is challenging because these students have highly individualised learning needs, which stem from the complexity and comorbidity of these difficulties. To respond appropriately, teachers need to consider a range of approaches and classroom accommodations to ensure effective foreign language learning. Dyslexia, as the most commonly occurring SpLD, has received a lot of attention in the current literature, but less attention has been given to the challenges presented by Attention Deficit/Hyperactivity Disorder (ADHD), especially for developing skills in a foreign language. This paper outlines potential approaches, including Multisensory Structured Learning, and accommodations that can be applied in teaching a foreign language to students with ADHD in a classroom setting. The focus was given to English as a foreign language.

Keywords: ADHD, EFL, FL classroom

1. INTRODUCTION

A student with *Attention Deficit/Hyperactivity Disorder* (ADHD) is a challenge for every teacher. When a student lacks concentration, is impulsive, and is excessively mobile, it affects both the student's ability to acquire knowledge, and the dynamics of the entire classroom.

Since the current foreign language (FL) methodology emphasises the importance of students' individual differences (Ellis, 2014), it is important that teachers use teaching approaches and set classroom conditions that help students with ADHD increase concentration, and reduce impulsivity and hyperactivity. Without appropriate accommodations, a student with ADHD may struggle to develop skills in an FL and realise their full potential.

The current literature provides a lot of information on ADHD, and how we should work with students with this disorder. However, the pedagogical perspective tends to be general and focuses on one-to-one and small-group instruction. There is much less research on ADHD in the context of learning FLs, and this limits our understanding of how this disorder affects the way that students develop FL skills.

This paper attempts to provide practical information on teaching students with ADHD in a classroom setting. It applies research findings and theoretical considerations regarding the effect of ADHD on the development of skills in English as a foreign language (EFL).

2. INATTENTION, IMPULSIVITY AND HYPERACTIVITY IN FL LEARNING

Many studies (e.g., Kormos, 2000; Morgan-Short et al., 2018) have found that attention plays an important role in second language acquisition (Robinson, 2003), and therefore, it is currently considered an aspect of aptitude in a second language (Wen, Biedroń, & Skehan, 2017). This is because attention is related to short-term memory – the ability to store information, and to working memory – the ability to manipulate this information over a short time. Attention is thus an ability to select one stimulus, to redirect it, to focus on many stimuli, to maintain focus in a situation where there is no stimulus present, and to perform several tasks simultaneously (Alloway, 2015).

The *central executive*, an attentional controller in processing complex short-term visual and verbal information, is also important (Baddeley, 1996). The central

executive allows individuals to inhibit distractions, and so to direct attention to a task with the intention to complete it. In doing this, they avoid irrelevant information, plan, complete the task in a methodological way, and use effective strategies (Wu, 2014).

Weaker working memory and executive control processes may affect how individuals memorise and process verbal and visual information. Consequently, this affects the development of different language skills (Kormos, 2017). Cain and Bignell (2014) found that single-word reading and reading comprehension in the first language may be lower in students with ADHD. These difficulties in the first language may affect reading skills in FL. Reading comprehension tasks in FL at a proficient level require that learners process complex information, requiring a higher level of attention. Some students with ADHD may, therefore, struggle to complete these tasks successfully.

The work of Alloway, Gathercole, and Elliot (2010) and Martinussen and Tannock (2006) suggests that presenting information orally would be more effective when teaching students with ADHD. On the other hand, individuals with ADHD may have difficulty processing verbal material (Cain & Bignell, 2014). Listening comprehension tasks in FL that require students to focus for a long time or select specific information may be difficult for those with lower attention (Kałdonek-Crnjaković, 2018).

Students with ADHD may also struggle with written assignments. Writing skills in FL are less automatic, which means they have a greater effect on working memory (Kormos, 2017). Students with ADHD may make more spelling mistakes (Adi-Japha et al., 2007; Sparks, Humbach, & Javorsky, 2008), and struggle to plan, organise, and proofread their writing. As a result, their written work often lacks coherence and detail (Kałdonek-Crnjaković, 2018).

There are, however, individual differences in the potential difficulties that students with ADHD experience. The cognitive maturity of the student, as well as the co-occurrence with other SpLDs, is always relevant. Sparks et al. (2008) found that the cognitive profile of university students with ADHD was similar to students with other learning difficulties; yet, the students with ADHD were more likely to achieve high scores in foreign language classes (Sparks, Javorsky, & Philips, 2004, 2005). This suggests that adults with ADHD may develop ways to compensate for lower attention (Kałdonek-Crnjaković, 2018). On the other hand, cognitive and behavioural manifestations of ADHD may be environmentally dependent. In a school context,

they may be aggravated by monotonous tasks as students with ADHD cannot sustain attention when they find activities dull and repetitive (Barkley, 2006). Consequently, the student's academic achievement will be affected (Kormos & Smith, 2012).

Hyperactivity and impulsivity will mainly affect production and social interaction in FL in reference to the skills outlined in the Common European Framework Reference for Languages (Council of Europe, 2018), especially at the proficient level, where the student is expected to pay attention to more complex social rules and respond appropriately in accordance with social conventions. Students may struggle to develop socio-pragmatic aspects of speaking and writing skills and develop fluency at the expense of accuracy (Smith, 2015). This can lead to incoherent expressions with irrelevant information and little control over spelling and punctuation (Kaldonek-Crnjaković, 2018).

3. THE PRINCIPLES OF WORKING WITH STUDENTS WITH ADHD

To work effectively with students with ADHD, the teacher first needs to understand how these students create the world around them (Babocká, 2015). Some students may at first seem to be aggressive and asocial (Skibska, 2013), but a teacher who is aware of the underlying causes of ADHD and understands the mind of the student with ADHD will more easily understand a student's behaviour. The personality of the teacher matters too. Ideally, a teacher should be patient, with a positive (Babocká, 2015), and a non-judgemental attitude. They also should be willingly engaged in working with students with ADHD (Pfiffner, Barkley, & DuPaul, 2006).

Behavioural issues may frequently be challenging when working with a student with ADHD, and therefore major classroom interventions include behavioural, academic, social aspects. The behavioural classroom interventions, which have been found most effective, are based on antecedent- and consequent-based strategies, and self-management approaches (DuPaul & Weyandt, 2006).

Antecedent-based strategies, which attempt to prevent unwilling behaviour, include choice-making, modification of the assigned task (e.g., reduction in size or chunking), and active and regular teaching classroom rules. Consequent-based strategies, which are used after a target behaviour failed, include, for example, a verbal reprimand, preferably delivered to the student privately and in a brief, calm, and quiet manner, or removal from the classroom. In addition, the teacher should use token reinforcement in which the student earns reinforcers for meeting behavioural

expectations (e.g., stickers or points). The reinforcers are aggregated, for example, at the end of the day, and exchange for rewards, which can take different forms (for more information see DuPaul & Weyandt, 2006, and Pfiffner et al., 2006). Finally, self-management approaches are employed by the student themselves and aim at the self-control of behaviour. Apart from self-monitoring, these approaches may involve self-reinforcement and self-evaluation (DuPaul & Weyandt, 2006, pp. 163–166).

The teacher does not, however, have sole responsibility for managing the behaviour of a student with ADHD. All stakeholders should be involved, including school management, teachers, support staff, other students, and their parents. Fair treatment is crucial in working with students with ADHD, given the oversensitivity that these students often experience. Schools should establish clear rules, which require an established system to respond to the student's needs, independent of context. If this happens, everyone involved knows what is required of the student and the consequences of not meeting those standards. Students with ADHD will be more likely to feel that they are being treated fairly.

The key principle of the whole-school approach is a system of routines for students with ADHD to help them manage their behaviour. This may include a range of visual aids and gestures – for example, traffic lights, stop cards, or a thumbs-up sign (Rief, 2005). Students may also leave the classroom to calm down, or be assigned a space in which they can work on their own.

Fair treatment may be also enforced by establishing clear success criteria for task performance. So-called SMART targets were introduced by Lloyd and Berthelot (1992) and are fundamental in working with students with SpLDs and special educational needs since they make the lesson highly structured (Tod, 1999). These targets are:

- specific (S),
- measurable (M),
- attainable (A),
- realistic (R), and
- time-bound (T).

The effectiveness of SMART targets, however, depends on how well teachers know and understand individual differences, how well they understand the acquisition of literacy, whether they are aware of the effectiveness of different teaching

approaches, and whether they acknowledge the importance of strict monitoring of progress (Tod, 1999).

In light of the principles of self-management approaches (DuPaul & Weyandt, 2006), involving the student in designing SMART targets can help teachers understand the student's individual L2 and behavioural needs better. This will also make the student more aware of their learning needs and more focused on the quality of the work. The result is that behaviour for learning becomes a secondary concern.

Goals designed by the student should be individualised and short-term, for example, "I am going to write three more sentences by the time this work period is over" (Rief, 2005). The goal should be expressed in the first person: this gives the student a greater sense of responsibility and is step-like to set planning for completion of the work. Self-monitoring should be included, in which the student proofreads work before asking the teacher for help. Goal-setting should also refer to behaviour management. In the foreign language setting, an example might be:

"I am going to do the first three sentences. Then I will check them to see if I have applied the correct tense. Finally, I will ask the teacher to look at my work. I will take my time. I will not hurry."

Timing is crucial when working with students with ADHD (Babocká, 2015; Rief, 2005). Smith (2015) recommends classroom activities should not last longer than ten minutes, and complex activities may need to be broken into shorter, more manageable goals. The teacher should also set a time limit to complete the assigned task, and monitor the student's work at different phases. Timing will nevertheless depend on the individual needs of the student. Setting a specific time may also have a detrimental effect on the quality of the task completion, because some students may be more concerned about completing a task on time than ensuring the quality of the work. For some students, pacing the work would be more effective than setting a deadline to complete the task. For example, if a reading comprehension task contains eight questions, a student with ADHD can attempt the first four, and check the answers with the teacher before attempting the others. The teacher may ask the student to cover the last four questions so he or she can fully concentrate on the first part of the task. As a result, the student will have less material on which to focus, leading to higher levels of concentration, and the teacher can enhance the quality with which the whole task is completed by monitoring at mid-stage.

When success criteria use SMART targets, the teacher can also provide the student with constructive feedback. This should always be part of work with students with ADHD since it connects input with output through selective attention (Long, 1996). As selective attention is weak in students with ADHD, feedback needs frequent enforcement to create a more focused learning setting for students with ADHD.

Managing behaviour for learning for these students requires effort, and so any attempt that the student makes should be positively commented on by the teacher and supported by a constructive remark. The teacher should first acknowledge the effort regardless of its outcome, and then provide an overview of performance pointing out how the student has already met the success criteria for the task, giving specific examples in reference to L2 language use and behaviour for learning. At this point, the teacher can also provide corrective feedback that will make the student aware of the gap between language production and the target-like L2 form (Long, 1996). The corrective feedback should also mention behaviour for learning if issues occurred during task performance. The teacher should discuss the strategies to improve language use and content in the student's work, as well as their behaviour for learning. Feedback to students with ADHD in an FL classroom should, therefore, refer to both L2 production and behaviour for learning (Figure 1).

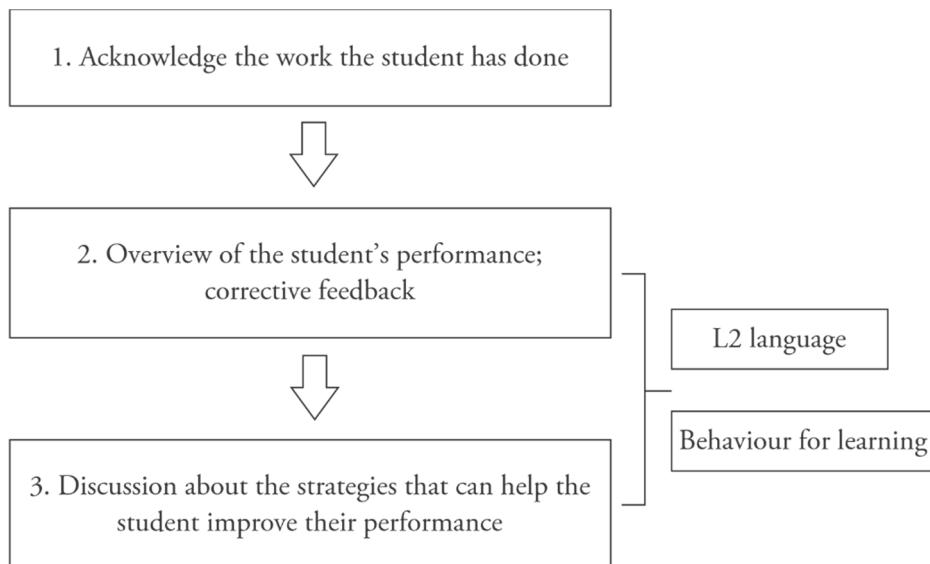


Figure 1. Feedback to students with ADHD in an FL classroom

Slika 1. Shematski prikaz povratne informacije učenicima s ADHD-om

It is also important to create a more focused learning environment by reducing stimuli. It relates to antecedent-based strategies (DuPaul & Weyandt, 2006) and involves classroom management, classroom design, and teaching and learning resources design.

The lesson should be well-organised with clear information to the student about learning goals and outcomes. The teacher should also manage student behaviour to eliminate unnecessary disruptions. Sitting the student with ADHD alone at the front of the class may help control behaviour of both the student and the rest of the class, and the behaviour of the class, but it may also deprive the student of the opportunity to interact with peers, which may inhibit the development of socio-pragmatic skills.

Therefore, the sitting arrangement should be used flexibly, depending on the classroom activity. It might help a student to complete a written task independently and according to targets, if that student sits alone at the front of the class. Once the student has completed the task, he or she can join another student (or a group of students) to check their answers.

Reducing the number of stimuli can also be important when providing instructions or presenting new material. For example, the teacher can ask students with ADHD to close their eyes, and limiting the visual channel will allow the student to concentrate on what is being said. But in individual writing assignments, it may be important for the student with ADHD to avoid being distracted by surrounding noise. The student can use noise-cancelling headphones or listen to music (Smith, 2015). Students with ADHD may also be oversensitive, and so to avoid distraction the teacher may need to adjust the room temperature and the intensity of lighting (Kormos & Smith, 2012).

The teacher can use 'signposts', drawing attention to a task, activity, or when instructions are about to be provided. The teacher should first explain to pay more attention by saying, for example:

"Now, [name], you need to listen carefully because I'm going to explain [how/what] ... It is important because [reason] ..."

On the one hand, signposting that is being addressed to the whole class creates a more integrated environment; on the other hand, if the signposting is not directly addressed to students with ADHD, the students may not automatically relate it to themselves.

The design of the classroom should not use extensive use of colours (Smith, 2015), because they may distract the student's attention from the teaching and learning content. Pictures and photos may also create an unnecessary distraction. Plain walls will create a 'calmer' and more focused learning environment, which is beneficial for students with ADHD.

The personal appearance of the teacher may also be important. Extensive use of colours or unusual patterns and fabrics may draw the student's attention. Impulsive and hyperactive students may also not be able to control the urge to touch, which may create awkward situations.

Teaching and learning resources should also not use extensive use of colours or unclear layouts. Colour-coding in teaching and learning resources should be used only for stressing important elements of the content and should be monitored by the teacher.

Traffic lights, as suggested by Babocká (2015) can be used for colour-coded behaviour management. Red means 'no talking allowed', amber 'low level talking allowed', and green 'open talking'. This labelling may, however, be confusing for the student with ADHD, who struggles to interpret the meaning of 'low-level talking'. Students with ADHD may just understand that they can talk, it is paramount that the teacher demonstrates what exactly 'low' means according to social conventions because a student with ADHD cannot simply infer it from the behaviour of other students.

Traffic light signs can be used to give feedback to the student (Rief, 2005). Green may mean 'you are on task' or 'you are doing well'. Amber means 'You need to pay more attention' or 'your behaviour needs improvement'. Red sends the message that 'your behaviour is not acceptable'. The amber sign is particularly important. It serves as a warning and allows the student to self-monitor behaviour and avoid a meltdown.

4. MULTISENSORY STRUCTURED LEARNING

It is widely recommended that teaching an FL to students with SpLDs is based on the Multisensory Structured Learning (MSL) approach (Kormos & Smith, 2012; Nijakowska, 2010; Schneider & Crombie, 2003). Numerous studies have found MSL to be effective in teaching different foreign language skills to individuals with SpLDs, especially dyslexia (e.g., Kałdonek-Crnjaković, 2015, 2019; Nijakowska, 2008; Pfenninger, 2015).

Since the underlying causes of dyslexia and ADHD share similar cognitive aspects (Kormos, 2017), and that the co-occurrence of these two SpLDs is very common (Lipowska, 2011; Pennington et al., 2009), it can be assumed that an approach based on the multisensory stimulation, development of metacognitive awareness and direct teaching can be equally beneficial for students with ADHD.

The employment of MSL when teaching students with ADHD should depend on the presentation of the condition, and its manifestation in FL skills development and task performance in the classroom, as well as the student's age and their cognitive maturity. It should not be applied by default.

The principle of multisensory teaching is the simultaneous employment of all sensory channels – visual, auditory, kinaesthetic, and tactile. In an FL classroom, an example is the use of flashcards to introduce new vocabulary. The teacher shows the card with the word, says the word aloud, and practises the spelling by tracing the letters of the word on the card. Students repeat the word aloud and practise spelling by writing the word on the table with their finger or in the air (Kałdonek-Crnjaković & Fišer, 2017).

Movement and touch are important to help younger students focus on the task and process information more efficiently. Children cannot learn easily from the material that they only see or hear. Examples are touching lips when producing specific sounds, body motion in vocabulary learning, interactive games (Schneider & Crombie, 2003), following the text with the finger when reading. The Total Physical Response method designed by Asher (2009) or the Good Start Method for English by Bogdanowicz and Bogdanowicz (2016) are also examples.

The sense of movement and touch in individuals with ADHD is natural and pervasive. Therefore it should not be curbed. On the other hand, a teacher who wants to manage behaviour should allow the student with ADHD to express movement and use touch only in a way that will not have a detrimental effect on classroom dynamics. This may include, for example, allowing the student with ADHD to walk at the back of the classroom, use a stress ball and a soft fabric, or draw and scribble. In addition, the teacher may ask the student with ADHD to help with classroom tasks, such as giving out and collecting books or erasing the board. These forms of movement and touch will not disturb other students and will help the student with ADHD retain concentration and manage behaviour.

The multisensory approach is also important for revision. Revising is a struggle for students with ADHD who may find it tiresome and boring. Activities that involve

the use of all senses will keep the student with ADHD engaged, and thus more focused.

However, too much movement and touch, especially for those with higher intensity of impulsivity and hyperactivity may be unbeneficial for the student with ADHD. Teachers should constantly monitor the employment of kinaesthetic and tactile modes, for example, by first informing the student what behaviour is encouraged, and what would be unacceptable. For example, in practising pronunciation, students may divide words into syllables, say each syllable aloud, and tap against the desk. The teacher should demonstrate the movement and its intensity, as well as stress that the tap should be done only on the desk.

Alloway et al. (2010) find the strong auditory sense of students with ADHD should be relied on in teaching and learning. For example, a discussion with a student when planning or correcting class activities and written work. Many students, both with learning difficulties and without, find most didactic resources visually distracting (Andrychowicz-Trojanowska, 2016). The focus on the learning material, on the other hand, can be increased by enlarging the text and using a specific font type such as Arial or paper background in pastel colours (Kormos & Smith, 2012).

Considering the explicit approach of MSL, a direct presentation should create a greater focus on specific language aspects. This may include comparative analysis between the student's mother tongue and the target language to show similarities and differences, as well as a synthetic approach in learning new vocabulary (Schneider & Crombie, 2003). The explicit approach will be more effective with older students (Lightbown & Spada, 2006) because it requires metacognitive awareness, which depends on the student's cognitive maturity (Goswami, 2011).

For example, older students can independently correct mistakes in their work based on the teacher's corrective feedback (Lightbown & Spada, 2006). Students with ADHD will likely need little support from the teacher for this task, as their mistakes mainly include letter insertion, substitution, and omission, and stem from inattention (Adi-Japha et al., 2007) rather than from lower phonological awareness, which is the underlying cause of dyslexia.

Sparks et al. (2008) find that a student with ADHD may know spelling rules, but apply them incoherently in free writing. Therefore, corrective feedback for spelling mistakes should first signal the mistake and then refer to the spelling rule. Directing the student's attention to specific spelling and grammatical mistakes will lead to higher metalinguistic awareness, and the higher the metalinguistic awareness,

the higher the possibility that the student will control the application of rules independently in different contexts. For example, if the student writes the word ‘because’ as ‘becos’. The teacher may copy the part of the word that was correct, and leave spaces for the part that was incorrectly written (‘bec _ _ s _ ’). If the student struggles when filling in the missing letters, the teacher can write the correct spelling of the word in the margin of the page, and highlight the part that has been incorrectly spelt.

Metacognitive awareness can be raised through thought-provoking questions and non-verbal gestures, making reference to linguistic knowledge the student has previously acquired (Schneider & Crombie, 2003). The teacher can ask the following thought-provoking questions:

"Why did you use this tense in this sentence?"

"What other word could you use in this sentence?"

"How will you remember this rule?" (Kałdonek-Crnjaković & Fišer, in press).

The structured approach of MSL introduces easier teaching and learning the material, followed by a more complex material that follows from, or refers to, basic forms previously learned (Schneider & Crombie, 2003). This is important in the context of working and short-term memory. Presenting teaching and learning the material in this sequential and logical way will not create an additional burden on working and short-term memory – a burden that individuals with the attention deficit struggle to manage (Kormos, 2017).

This approach should be adopted in teaching all language skills, including vocabulary, spelling, and grammatical structures, as well as to provide instructions and explain activities. For example, if the student struggles to construct a coherent sentence structure, the teacher can provide sentence starters and phrases related to the topic. Improving the quality of the vocabulary, grammar, spelling, and punctuation in sentences already written may be dealt with through corrective feedback.

5. CONCLUSION

Attention is a crucial factor in successful FL acquisition (Robinson, 2003). Students with lower attention will struggle in an FL classroom if it is not adjusted to their needs. Accommodation of the needs of students with lower attention should aim at creating a focused learning environment with a limited number of stimuli.

Students with the hyperactive-impulsive presentation of ADHD need physical movement and interaction with other people, and this may affect behaviour for learning if extensively curbed. Yet, the needs of these students must be balanced against the needs of other students in the classroom, for whom excessive disruption will be detrimental to their progress. In other words, a differentiated approach to accommodate the needs of the student with ADHD should be balanced against the needs of the whole class. If it is not, the student with ADHD may be unjustly prioritised, which may be detrimental to classroom dynamics in the long term.

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Agnieszka Kałdonek-Crnjaković

a.kaldonek2@uw.edu.pl

Institut za anglistiku, Fakultet suvremenih jezika
Sveučilište u Varšavi, Poljska

Poučavanje stranoga jezika učenicima s ADHD-om

Sažetak

Poučavanje stranih jezika učenicima sa specifičnim teškoćama u učenju predstavlja izazov jer su njihove potrebe za učenjem izrazito individualizirane zato što proizlaze iz složenosti tih teškoća. Učitelji i nastavnici trebaju razmotriti niz pristupa i prilagodbi u učionici kako bi osigurali učinkovito učenje stranih jezika kod učenika s ADHD-om. Disleksija, kao najčešća teškoća u učenju, najzastupljenija je u literaturi. Manje pozornosti pridaje se izazovima koji proizlaze iz poremećaja pozornosti / hiperaktivnosti (ADHD), posebno kada je riječ o razvijanju vještina na stranome jeziku.

Osnovni kognitivni uzrok ADHD-a je slabije radno i kratkotrajno pamćenje (Baddeley, 1996), a očituje se nepažnjom, hiperaktivnošću i impulzivnošću. Simptomi ADHD-a su, između ostalog, neposvećivanje pozornosti detaljima, otežana usmjerenost pozornosti na zadatke i na organiziranje aktivnosti, lako odvlačenje pozornosti nebitnim podražajima, nedostatak samokontrole, nestrpljivost, pretjerano pričanje, često ometanje i prekidanje drugih (American Psychiatric Association, 2013).

ADHD u kontekstu učenja stranoga i drugoga jezika relativno je malo istražen. Pretpostavlja se da slabija radna memorija i izvršni kontrolni procesi utječu na pamćenje i obradu verbalnih i vizualnih informacija (Kormos, 2017) pa time ADHD može utjecati na razvoj jezičnih vještina u stranome i drugome jeziku (Kałdonek-Crnjaković, 2018).

Ovaj rad ukazuje na potencijalne pristupe, uključujući multisenzorni i strukturirani pristup učenju kao i opće prilagodbe redovne nastave, koji se mogu primijeniti u podučavanju stranoga jezika učenicima s ADHD-om, s posebnim naglaskom na engleski kao strani jezik. Ovaj rad također pruža informacije o ADHD-u i njegovom utjecaju na razvoj vještina u stranome jeziku u odnosu na nalaze istraživanja na prvome i drugome / stranome jeziku.

Ključne riječi: ADHD, engleski kao strani jezik, nastava stranoga jezika

Prikaz

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Elenmari Pletikos Olof

epletikos@ffzg.hr

Filozofski fakultet Sveučilišta u Zagrebu

Hrvatska

Gordana Varošanec-Škarić: *Forenzična fonetika*. Zagreb, IBIS grafika, 2019.

Sveučilišni udžbenik *Forenzična fonetika* autorice Gordane Varošanec-Škarić, objavljen u studenome 2019. godine u izdanju IBIS grafike u Zagrebu, djelo je koje u hrvatsku znanost i u hrvatsku sveučilišnu nastavu donosi najnovije svjetske istraživačke spoznaje iz područja forenzične fonetike. Ovo je djelo od iznimne važnosti za hrvatsku znanost jer pregledno, jasno i precizno prikazuje i tumaći teme iz područja forenzične fonetike te u svim temama iznosi i objašnjava rezultate vlastitih istraživanja u području prepoznavanja govornika hrvatskoga jezika i osnovnih akustičkih mjerena hrvatskoga govora. Svjedočeći o vrhunskoj stručnosti i erudiciji autorice, knjiga tematski nastavlja, usustavljuje i produbljuje spoznaje i istraživanja koje je autorica objavila u prethodne dvije knjige iz područja estetske fonetike i njege glasa i izgovora – *Timbar* (2005) i *Fonetska njega glasa i izgovora* (2010).

Knjiga *Forenzična fonetika* bavi se prepoznavanjem govornika hrvatskoga jezika na temelju postupaka i protokola slušnoga prepoznavanja govornika, kao i na temelju akustičkih mjerena. Autorica vješto koristi rezultate vlastitih istraživanja iz fonetike koje je objavila u više od 60 radova i uspoređuje ih s rezultatima i spoznjama iz više od 300 relevantnih radova drugih autora koji istražuju fonetske teme ovoga užeg područja. Razvidno je da je ova knjiga rezultat sustavnog znanstvenog rada u području forenzične fonetike jer je autorica bila voditeljica projekta Ministarstva znanosti i obrazovanja *Forenzična fonetika: slušno prepoznavanje i zvučna analiza govora* od 2008. godine i voditeljica znanstvenih istraživanja na Filozofskom fakultetu u Zagrebu.

Sadržaj knjige organiziran je u 13 poglavlja u ukupnom obimu od 315 stranica. Knjiga uspijeva u logičnom slijedu sveobuhvatno prikazati i obraditi brojne teme forenzične fonetike: nazivlje, pravni okvir vještačenja, etiku struke, istražne intervjuje,

fonetski verifikacijski postupak, protokole slušnoga prepoznavanja govornika, mjere fundamentalne frekvencije, formantsku analizu, prozodijske osobine tempa i disfluentnosti, značenje dijalekata u prepoznavanju, utjecaj telefonske transmisije i akustičko-statističke metode u prepoznavanju govornika. Iznimna vrijednost ovoga djela je u sinergiji verbalne, slikovne i tablične organizacije materijala. U tekstu se određuju i tumače pojmovi, a u slikama i tablicama većinom se nalaze podatci koji su rezultat autoričinih mjerena i eksperimenata, kao i ilustracije pojmove i fonetskih koncepata. U knjizi se nalaze 62 slike, 22 tablice i 4 ilustracije. Slike su većinom prikazi dugotrajnoga prosječnog spektra govora (kratica LTASS), oscilogrami, prikazi kretanja tona u vremenu, široke spektrografske analize s vrijednostima formanata, sonogrami uske analize, histogramski prikazi glasova, slike vokalskoga prostora na temelju podataka o prvom i drugom formantu te slike koje prikazuju i uspoređuju rezultate pojedinih istraživanja. U tablicama su najčešće podatkovno prikazani rezultati vlastitih istraživanja, a ilustracije su vrijedne za sintetičko razumijevanje slušne procjene glasa, osobito ilustracije "slušna procjena prepoznavanja govornika" (prilagođeni prijevod protokola AP – SPID) i "protokol forenzične fonetske procjene glasa" (prilagođeni protokol VPA). U knjizi se nalazi 21 stranica popisa znanstvenih referencija, kazalo autora i kazalo pojmove.

Prvo poglavlje naslovljeno *Uvod u forenzičnu fonetiku* objašnjava zašto spektrogrami nisu "otisci glasa", poput otiska prstiju u forenzici, te koje su vještine fonetičara potrebne u slušnom prepoznavanju govornika i identifikaciji govornika. Naime, forenzična fonetika, usprkos velikom tehnološkom napretku, još uvijek je daleko od pouzdane identifikacije govornika samo na temelju zvučne slike govora jer se iz kontroliranih eksperimentalnih (nadziranih, studijskih) uvjeta, u kojima je moguća pouzdana strojna identifikacija, treba napraviti iskorak u svijet stvarnih slučajeva forenzičnoga vještačenja, a tu su nužne vještine fonetičara – stručnjaka u slušnom prepoznavanju govornika. Autorica objašnjava pitanje vjerojatnosti (probabilnosti) u dokazivanju u forenzici, što se može primijeniti na sve znanstvene discipline, te prikazuje podatke o stanovništvu Republike Hrvatske prema spolu i prema rasponu godina, koji mogu biti korisni za donošenje zaključaka.

Drugo poglavlje *Značenja glasa u prepoznavanju govornika* tumači dva sloja glasa: paralingvistički i izvanjezični (ekstralinguistički). Paralingvistički sloj odnosi se na promjenjivo stanje glasa, tj. na izražajnost ili ekspresivnost koja proizlazi prvenstveno iz emotivnih stanja govornika, a u forenzičnim slučajevima to mogu biti psihološki stres, komunikacijski stres, govorni rizik, prikriveni osjećaji govornika i obilježja

karaktera. Autorica posebnu pozornost posvećuje tumačenju akustičkih mjera, primjerice mjere aperiodičnosti tona (*jitter*) ili mjere aperiodičnosti amplitude (*shimmer*), koje nastaju u komunikacijskom stresu i koje se ne smiju uzimati kao dio dokaza o krivnji. Objasnjava kako impresionistički nazivi i neke fonetske osobine glasa (primjerice šuman glas, hrapav i napet glas, šaptav glas, nizak glas, nosni molečiv glas, promukao glas) mogu ukazivati na obilježja osobnosti te na prikrivene osjećaje govornika. Ton i intonacija, kao bitne dinamičke osobine glasa, također se mijenjaju pri izražavanju osjećaja, no jezici se znatno razlikuju i ne može se govoriti o univerzalnim paralingvističkim osobinama intonacije, već je vrlo bitno porijeklo i materinski jezik procjenitelja. Autorica ovu tezu oslikava primjerom istraživanja u kojima uspoređuje engleski i njemački jezik, tj. kako se govornici procjenjuju s gledišta drugoga jezika. Primjerice, njemački slušači analizirajući govornice engleskoga jezika procjenjuju ih "pretjerano uzbudjenima" i "agresivnima" (zbog više F_0 i većih promjena tona), dok britanski slušači njemačke govornike percipiraju "dosadnima, neljubaznima i neprijateljskima" jer govore nižim tonom. Izvanjezični sloj glasa odnosi se na stalno stanje glasa, koje određuje timbar (kvaliteta glasa), te na dinamične slojeve glasa, koji su stalna obilježja govornika: visina, glasnoća, dijalektalne osobine, izgovor i prozodija. Izvanjezični sloj glasa čine fizičke osobine (dob, spol, zdravlje), društvene osobine (društveni status, stupanj naobrazbe, regionalno porijeklo) i psihološki elementi govornikove osobnosti. Impresionistički i akustički autorica daje iscrpan opis četiriju kategorija timbra: normalan glas, glas boje čokolade, meketav glas i molečiv (plačnjikav) glas. Za ljubitelje književnosti jedno potpoglavlje posvećeno je prepoznavanju i opisu glasova u književnosti: autorica analizira glasove pojedinih osoba u Bibliji, u Le Carréovu romanu *Pravi prijatelji* i u Nesbøovim romanima *Crvenač* i *Nemeza* te objasnjava kako se impresionističkim opisom glasa podupire opis karakternih i društvenih osobina likova.

Iduća tri poglavlja određuju osnovne pojmove, pravni okvir i pravila struke forenzične fonetike. Poglavlje *Nazivlje u forenzičnoj fonetici* nudi hrvatske inačice za uvriježene termine na engleskome te određuje i objasnjava ključne i čestouporabne termine forenzične fonetike kao što su dosje, podatci, dokaz, nalaz, ključni problem, tvrdnja, alternativna propozicija, hijerarhija tvrdnji, omjer sličnosti, pozadinska obavijest, mandatni autoritet, formulacijske riječi, prepoznavanje parova glasova itd. Osnovni pojmovi u forenzičnoj fonetici su: prepoznavanje govornika, identifikacija govornika i verifikacija govornika, a autorica većinom prihvata pojam prepoznavanje govornika kao nadređen u teorijskom i praktičnom smislu postupcima identifikacije i

verifikacije govornika. Dok termin *prepoznavanje govornika* pokriva širok raspon situacija u kojima se ljudi prepoznaju, termin *identifikacija govornika* označava razne postupke kojima se izgovoreni tekst jednoga govornika uspoređuje s glasovima u bazi podataka s ciljem da se utvrdi identitet govornika. Autorica ukazuje na nužnost razlikovanja naivnoga slušnog prepoznavanja i ekspertne forenzične identifikacije govornika, a stručnjaci su u ovome slučaju – fonetičari. Opisujući *Pravni okvir vještačenja u hrvatskome pravnom sustavu* autorica tumači Zakon o kaznenom postupku, određujući vještačenja prema tome zakonu te prikazujući podatke o strukturi delikata u Hrvatskoj. Poglavlje naslovljeno *Etika struke forenzičnoga fonetičara* tumači glavna pravila struke, ciljeve i pravilnik prakse koje propisuje IAFPA – International Association for Forensic Phonetics and Acoustics.

Šesto poglavlje pod nazivom *Istražni intervju i fonetski verifikacijski postupak* podijeljeno je u četiri dijela: lingvistička analiza utvrđivanja porijekla govornika, istražni intervju, verifikacijski postupak u forenzičnoj fonetici i istraživanja prikrivanja glasa. Ovo je poglavlje vrlo praktično usmjereni jer daje naputke kako strukturirati intervju te primjer intervjeta fonetičara s okrivljenikom. Zanimljivost ovoga poglavlja je u tumačenju kriterija po kojima se lažni iskazi mogu razlikovati od istinitih iskaza. Jezični znakovi koji se uzimaju u obzir u analizama su: ukupni izračuni riječi (lažljivci rabe manji broj riječi), premosnice (lažljivci imaju više premosnica) i spontane negacije (lažljivci rabe znatno više spontanih negacija). Prikrivanje glasa fonetski se ostvaruje različitim sredstvima, a to su promjena fundamentalne frekvencije (F_0), mijenjanje artikulacije, promjena postavljanja glasa (npr. nazalizacija, faringalizacija), glumljenje poremećaja izgovora ili stranoga akcenta.

Jedno od ključnih poglavlja ove knjige je sedmo poglavlje *Protokoli slušnoga prepoznavanja glasa*. Dva osnovna protokola koja se u ovom poglavlju prevode i prilagođavaju za hrvatski jezik jesu protokol slušne percepcije AP – SPID, koji je nazvan *Slušna percepcija prepoznavanja govornika* (str. 109) i prilagođeni protokol analize vokalnoga profila (VPA), koji je nazvan *Protokol forenzične fonetske procjene glasa* (str. 126). Prema protokolu slušne percepcije procjenjuje se percepcijski različitost i sličnost glasova u paru na ljestvici od 0 (što označava potpunu različitost) do 10 (označava potpunu sličnost) u pojedinim dimenzijama procjene. Raspon od 0 do 3 znači veliku različitost (neprepoznavanje govornika), od 4 do 6 neutralnu prosudbu, a od 7 do 10 veliku sličnost (prepoznavanje govornika). Svaki par glasova procjenjuje se u sedam dimenzija, a to su: 1. ton (visina tona, promjenjivost, obrasci pravilnosti), 2. kvaliteta glasa (opća kvaliteta timbra, fonacijska vrsta, ostalo),

3. intenzitet (promjenjivost), 4. dijalekt (regionalnost, strani, idiolekt), 5. artikulacija (vokali, konsonanti, pogrešan izgovor, nazalizacija, ostalo), 6. prozodija (brzina, prekidi govora, staccato), 7. ostalo (govorni poremećaji i drugo). Ovaj protokol oprimjerjen je s rezultatima triju analiza u kojima se srednja vrijednost postotka sličnosti kreće od 90 % do 100 %. Brojni su savjeti stručnjaka za pripremu akustičkoga materijala, a jedan od najvažnijih je da se uvede sedam pogrešnih glasova u prepoznavanju jednoga glasa. Protokol forenzične fonetske procjene glasa prilagođen je za forenzična ispitivanja prema izvornom protokolu analize vokalnoga profila, a sastoji se od četiri kategorije: 1. oblici kvalitete glasa (nadgrkljanski i grkljanski oblici), 2. prozodijski oblici (ton, čvrstoća, glasnoća), 3. vremenska organizacija oblika (glatkoća i brzina) i 4. komentari (disanje, ritmičnost). U ovom su poglavlju najiscrpljije opisane najčešće fonacijske vrste prema načinu slaganja, a jasno su definirane te slikovnim prilozima i podatkovnim informacijama objasnijene četiri fonacijske vrste: modalna, šumna, hrapava i škripava fonacija.

Osmo poglavlje naslovljeno je *Mjere fundamentalne frekvencije* te ga možemo preporučiti svakome tko želi razumjeti što je fundamentalna frekvencija, a što ton ili tonska visina te koje su referentne vrijednosti govornika i govornica hrvatskoga jezika. Naime, u fonetici se razlikuje pojam ton glasa ili tonska visina, što je percepcijska kategorija, i fundamentalna frekvencija, što je akustička kategorija. Ljudske glasove perceptivno možemo podijeliti u pet kategorija (vrlo duboke, duboke, srednje visine, visoke i vrlo visoke), a ton, tj. fundamentalnu frekvenciju osnovnoga tona mjerimo u hercima (Hz). Tablica 6. (str. 140) nudi vrlo vrijedne referentne podatke za hrvatski jezik, a prikazuje odnose srednje vrijednosti frekvencije osnovnoga tona i percepcije visine glasa: raspon kod hrvatskih govornika kreće se od vrlo dubokoga muškoga glasa od 74 Hz i vrlo dubokoga ženskoga glasa od 113 Hz do vrlo visokoga muškoga glasa od 160 Hz i vrlo visokoga ženskoga glasa od 260 Hz. Tablica 7. (str. 144) također doprinosi referentnim podatcima za hrvatski govor jer prikazuje rezultate mjerenja vrijednosti F_0 kod muških i ženskih govornika na pet hrvatskih vokala. Osim ovih temeljnih vrijednosti poglavlje nudi velik broj podataka istraživanja prosječnih vrijednosti F_0 u povezanome neutralnom govoru kod muških i ženskih govornika. Prosječna vrijednost F_0 za muške govornike općeprihvaćenoga izgovora hrvatskoga jezika iznosi 117 Hz, a za govornice 183 Hz. Nekoliko istraživanja uspoređuje F_0 kod muških i ženskih ispitanika hrvatskoga jezika s govornicima srpskoga i slovenskoga jezika, a rezultati pokazuju da hrvatski mlađi govornici imaju značajno nižu prosječnu

F₀ nego srpski, dok se između hrvatskih i slovenskih govornika nisu pokazale značajne razlike.

Deveto poglavlje *Značenje dijalekata i artikulacije u prepoznavanju govornika* opisuje hrvatske samoglasnike i suglasnike u općeprihvaćenom izgovoru te razne regionalne varijante i odmake od toga izgovora, kao i neke češće poremećaje izgovora (primjerice sigmatizam). Iako se u forenzičnoj usporedbi govornika (FUG) veća pozornost pridaje akustičkim mjerjenjima samoglasnika, autorica piše i o eksperimentima koji se provode na temelju izgovora frikativa u kojima je najrelevantnija mjera težište spektra (engl. *centre of gravity* – CoG).

Deseto je poglavlje *Akustička formantska analiza* jer je znanje o formantima i primjena analize formanata jedno od najvažnijih u identifikaciji. Naime, formanti se mogu smatrati "potpisom" govornika jer "formantne vrijednosti odražavaju interakciju triju mogućih izvora identificiranja: jezičnoga akcenta, anatomije izgovornoga prolaza i artikulacije" (str. 185). Prva tri formanta (F1, F2 i F3) su vokalski formanti jer se na temelju njih razlikuju spektri samoglasnika, a treći i četvrti formant (F3 i F4) su vokalni formanti jer daju informacije o odnosima između šupljina unutar govornoga prolaza, dok F4 prvenstveno obavještava o duljini govornoga prolaza. Nakon temeljnih objašnjenja što su formanti i koje su njihove osnovne karakteristike (središnja frekvencija, širina formanta i raspršenje formanta) u tablicama se prikazuju rezultati istraživanja prosječnih vrijednosti središnje frekvencije formanata hrvatskih samoglasnika u izgovoru muškaraca i žena, a dobivene vrijednosti uspoređuju se s podatcima dobivenima u prethodnim istraživanjima hrvatskoga. Kao i u poglavlju o fundamentalnoj frekvenciji, i u ovome se istražuje sličnost vrijednosti formanata i percepcije samoglasnika u hrvatskome, srpskome i slovenskome izgovoru.

U forenzičnoj fonetici izuzetno je važan utjecaj telefonske transmisije na formante pa se tom temom bavi jedanaesto poglavlje. Dva su osnovna mesta izobličenja u telefonskom prijenosu zvuka: F1 i F4. Zbog izobličenja F1, i zbog činjenice da su prosječne frekvencije F4 niže nego u nefiltriranome govoru, važniju ulogu u analizi snimaka telefonskih razgovora imaju F2 i F3. Autorica vrlo informativnim slikama prikazuje odnos vokalskoga prostora (strukturu formanata pojedinih samoglasnika) u nefiltriranome i filtriranome govoru, te uspoređuje prikaze dugotrajnoga prosječnog spektra muškoga glasa u različitim uvjetima (intervju u studiju, filtrirane studijske snimke i telefonski razgovor) te tumači izobličenja do kojih dolazi u spektru.

U dvanaestome poglavlju *Prozodijske osobine – brzina govora i prekidi govora* objašnjavaju se elementi vremenske organizacije govora po kojima se može identificirati govornik. Razne vrste disfluentnosti mogu biti značajne kod prepoznavanja govornika, a osobito zvučne stanke koje mogu imati snagu dokaza u forenzičnoj usporedbi govornika. Treba napomenuti i da je mucanje snažan marker u prepoznavanju govornika, osobito zato što je izuzetno rijetko u populaciji.

Posljednje poglavlje koje je nazvano *Pomoćne akustičke metode i postupci u prepoznavanju govornika* zapravo je jedno od najvažnijih poglavlja knjige jer tumači indeks različitosti, tj. indeks standardne devijacije razlike distribucije između spektara (SDDD) i indeks sličnosti (R), tj. koeficijent međukorelacija između dvaju spektara. Važno je napomenuti da su rezultati akustičkih i akustičko-statističkih istraživanja prepoznavanja glasa primjereni kao pomoćna metoda jer je automatsko prepoznavanje i identifikacija govornika, zbog višedimenzionalnih osobina govornika, još uvijek u sferi znanstvene fantastike. U ekspertizama pri FUG-u (fonetskoj usporedbi govornika) upotrebljava se i omjer sličnosti (engl. *likelihood ratio* – LR), tj. automatsko prepoznavanje govornika pomoću omjera sličnosti. No, omjer sličnosti ima snagu dokaza samo u slučaju ako dva uzorka govora pripadaju istomu govorniku ili dvama govornicima.

Knjiga *Forenzična fonetika* autorice Gordane Varošanec-Škarić nije lako štivo – ona daje iscrpan pregled literature i recentnih rasprava o forenzičnoj fonetici u svijetu, a uz to je i nezaobilazan izvor podataka o hrvatskome govoru što je rezultat autoričina dugogodišnjega marljivog i preciznoga istraživačkog rada. Rezultati analiza glasova muških i ženskih govornika hrvatskoga, osobito mjere fundamentalne frekvencije, vokalskih formanata, dugotrajnoga spektra govora i fonacijskih tipova iznimani su doprinos hrvatskoj fonetici. Knjiga je prvenstveno namijenjena studentima diplomskoga i poslijediplomskoga studija fonetike koji već vladaju temeljnim pojmovima iz akustike, artikulacije, ortofonije i orteopije, ali je ona i izuzetno bogato i vrijedno štivo za kojim trebaju posegnuti svi hrvatski filolozi koji se bave istraživanjem govora kao i stručnjaci koji se bave fonetikom hrvatskoga jezika. Osim filologa, ova knjiga primjerena je i za stručnjake iz tehničkih znanosti, posebice one koji se bave akustikom govora i umjetnom inteligencijom. Naime, tumačenja indeksa različitosti, indeksa sličnosti, omjera sličnosti i drugih postupaka automatskoga prepoznavanja govornika put su prema tome da rezultati istraživanja humanističkih znanosti postanu od iznimne važnosti u napretku i razvoju područja umjetne inteligencije u Hrvatskoj.

Prikaz

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Mihaela Matešić, Biljana Stojanovska

mihaela.matesic@uniri.hr, biljana.stojanovska@uniri.hr

Sveučilište u Rijeci, Filozofski fakultet

Hrvatska

XXXIV. međunarodni znanstveni skup HDPL-a *Jezično i izvanjezično u međudjelovanju*. Split, Hrvatska, od 24. do 26. rujna 2020. godine

Po datumu i načinu održavanja XXXIV. skup HDPL-a, posvećen temi *Jezično i izvanjezično u međudjelovanju*, uvelike je bio drugačiji od svih dosadašnjih. Iako je bilo planirano da se skup održi od 16. do 18. travnja 2020. godine i iako su sve pripreme za to bile obavljene, okolnosti povezane s pandemijom bolesti COVID-19 i karantenom, ne samo u Hrvatskoj nego i u većini zemalja u svijetu, nametnule su pomak održavanja skupa od 24. do 26. rujna 2020. godine. I ne samo to, Organizacijski odbor odlučio je priхватiti izazov te tradicionalni HDPL-ov skup održati prvi put na daljinu. Putem platforme *Zoom* skup je koordiniran s Filozofskoga fakulteta u Splitu, odakle je sudionike pozdravila dekanica izv. prof. dr. sc. Gloria Vickov. Više od 150 sudionika iz Hrvatske, Slovenije, Bosne i Hercegovine, Austrije, Mađarske, Ujedinjenoga Kraljevstva, Sjedinjenih Američkih Država, Južnoafričke Republike i Japana pratilo je 81 izlaganje u sekcijama te plenarna izlaganja četiriju pozvanih predavača.

Prof. dr. sc. Grace E. Fielder sa Sveučilišta u Arizoni u plenarnome izlaganju *Norms, variants and evaluation: Theoretical challenges of post-1989 standard language ideology / Norme, varijante i evaluacija: teoretski izazovi ideologije standardnoga jezika poslije 1989.*, polazeći od postavki koje je iznjedrila istraživačka skupina SLICE (*Standard Language Ideology in Contemporary Europe / Ideologija standardnoga jezika u suvremenoj Evropi*), razmatrala je varijantnost u dva osnovna smjera u kojima se može kretati jezična ideologija u razdoblju tzv. postkomunizma: destandardizacija (standardni jezik gubi poziciju "uzornoga" jezika) i dimotikizacija (standardni jezik zadržava svoju poziciju, ali dolazi do prevrednovanja jezične uporabe, tj. govornih varijeteta koji pripadaju standardu).

Doc. dr. sc. Jelena Parizoska sa Sveučilišta u Zagrebu u plenarnome predavanju *Idiom modifications: What grammar reveals about conceptual structure / Modifikacije idioma. Što gramatika otkriva o konceptualnoj strukturi?* predstavila je rezultate korpusnoga istraživanja modifikacije frazema u hrvatskome i engleskome jeziku, pri čemu je na respektabilnom broju prikupljenih frazemskih jedinica dokazala da se u frazemskim modifikacijama odražava konvencionalnost na konceptualno-gramatičkoj razini.

Izv. prof. dr. sc. Ana Meštrović s Odjela za informatiku Sveučilišta u Rijeci predstavila je u plenarnome izlaganju *Exploring the COVID-19 infodemic in social media: Multilayer framework approach / Istraživanje infodemije na društvenim mrežama uzrokovane pandemijom COVID-19: pristup višeslojnog okvira* prve rezultate znanstvenoga projekta koji se na natječaju Hrvatske zaklade za znanost IP-CORONA-2020-04, raspisanome 20. ožujka 2020. godine, našao među 11 odobrenih projekata. Projektom se istražuju obrasci širenja informacija za trajanja pandemije bolesti COVID-19, pri čemu se naprednim postupcima razvijenima u području umjetne inteligencije nastoji znanstveno opisati velika količina podataka s društvenih mreža kako bi poslužili za stjecanje uvida u načine na koje se informiramo, ponašamo i razmišljamo kao pojedinci i društvo u cjelini u kriznom vremenu.

Temi disfluentnosti u dijalogu svoje je plenarno izlaganje posvetio dr. sc. Robin J. Lickley sa Sveučilišta Queen Margaret u Edinburghu. Istraživanja na velikim korpusima govora pokazuju da se disfluentnost zbiva u prosjeku na 6 od 100 izgovorenih riječi. Uz disfluentnost uzrokovano govornikovom proizvodnjom govora (koja može biti obilježena nesigurnošću u ono što govornik želi reći ili pak samoispravljanjem pri formuliranju ili artikuliranju) nekoliko se tipova disfluentnosti događa i u svakodnevnoj međusobnoj komunikaciji, tj. u razgovoru. Razlozi za to mogu biti: izmjena replika među sugovornicima (koja se nerijetko odvija uz preklapanje i prekide), sugovornikova replika može za govornika biti kognitivno prezahtjevna, govornici mogu pokazivati veću ili manju fluentnost ovisno o tome s kime razgovaraju, a naposljetu određeni dijalozi disfluentni su već i u samoj svojoj strukturi.

Ana Vidović Zorić i Marko Liker metodom elektropalatografije (EPG) istražili su međusobne koartikulacijske utjecaje glasnika /x/ i /t/ u neposrednom kontaktu. Rezultati mjerena koartikulacijskoga utjecaja dobiveni trima elektropalatografskim mjerama, tj. prednjim jezično-nepčanim kontaktom, stražnjim jezično-nepčanim kontaktom i indeksom lateralnosti, pokazali su da je koartikulacijski otpor glasnika

/x/ i /t/ različit na različitim mjestima artikulacije, ali i da postoji velika varijabilnost među ispitanicima. Marko Liker izvjestio je i o istraživanju jednoga od dinamičkih obrazaca kretanja jezika za koji se pretpostavlja da bi mogao biti biomehanički univerzalan – pivotiranje jezika (obrazac pri kojem na jednom mjestu na jeziku ne dolazi ni do kakva pomicanja, dok se dijelovi iza i ispred toga mesta kreću u suprotnim smjerovima). Istraživanje je pokazalo da je tijekom izgovora hrvatskih afrikata /ʃ/ i /tʃ/ pivotiranje jezika zastupljeno kod svih ispitanika, ali izraženost i preciznost toga pokreta variraju. Također, kvantifikacija dinamike i mesta pivotiranja pridonosi razumijevanju složenih govornih procesa poput koartikulacije.

Szilárd Szentgyörgyi i Zsolt Gergelics u radu *About the neural reality of [voice] and [spread glottis] / O neuralnoj stvarnosti [glasu] i [raširenoga glotisa]* predstavili su istraživački projekt kojim se uspoređuju značajke engleskoga i mađarskoga govora s ciljem utvrđivanja koji su dijelovi mozga uključeni u proces prepoznavanja grkljanskih glasnika kod jednojezičnih govornika engleskoga jezika, jednojezičnih govornika mađarskoga jezika i mađarsko-engleskih dvojezičnih govornika.

Iva Bašić i Daša Grković u istraživanju gorovne brzine kod (ne)izvornih govornika španjolskoga jezika te izvornih govornika hrvatskoga jezika – i to s obzirom na jezik, govorni stil i parametar gorovne brzine (tempo artikulacije i tempo govora) – dokazale su da izvorni govornici španjolskoga govore brže od izvornih govornika hrvatskoga, ali i da izvorni govornici hrvatskoga, kad su govorili španjolskim jezikom, nisu govorili brže nego na hrvatskome.

Gordana Varošanec-Škarić i Branka Šegvić u izlaganju *Komunikacijska strategija i retorička analiza glavnih sudionika štrajka obrazovnih sindikata* analizirale su javne govore u kontekstu važnoga političkog događaja koji je obilježio zadnje tromjeseće 2019. godine. Retorici političkih govora rad je posvetila i Anita Runjić-Stoilova. Rezultate istraživanja kognitivno-socio-lingvističke analize korpusa saborskih rasprava izložio je Benedikt Perak, a Domagoj Kostanjevac govorio je o konceptualnim metaforama u suvremenome hrvatskom političkom diskursu.

Više je radova bilo posvećeno razvoju jezičnih kompetencija. Martina Jurić i Božica Vuić na temelju opsežnoga istraživanja govorile su o utjecaju jezičnih sadržaja televizijskih i radijskih programa na leksičko-semantički razvoj učenika razredne nastave. Na respektabilnom korpusu koji sadrži više od stotinu i pedeset jezičnih uzoraka pripovijedanja Ivana Trtanj i Gordana Hržica istražile su pojavu ometača kod jednojezične djece (ispunjene stanke, ponavljanja te fonološka, leksička i gramatička samoispravljanja). U izlaganju Ines Strapajević i Jelene Vignjević predstavljeno je

istraživanje o uključivanju djece u (raz)govor za stolom u obitelji te uloga roditelja/ukućana u poticanju djece na sudjelovanje u (raz)govoru. Ana Leko Krhen, Gordana Hržica i Natalija Kokot izvijestile su o svojem istraživanju razumijevanja i proizvodnje sintaktičkih struktura kod djece koja mučaju, uz poseban naglasak na pitanje postoji li povezanost između sintaktičkih kompetencija djece koja mučaju i jakosti mučanja. Gordana Hržica, Sara Košutar i Matea Kramarić istražile su rječničku raznolikost tekstova koje su pisale osobe s razvojnim jezičnim poremećajem.

Gordana Hržica i Nada Poropat Jeletić istražile su pouzdanost metode samoprocjene jezičnih djelatnosti kod dvojezičnih govornika kao objektivne mjere njihove jezične kompetencije. Sergei Gnitiev izložio je rezultate istraživanja lingvističkoga nazadovanja, pojave povezane s dvojezičnošću i višejezičnošću, kod studenata koji su izvorni govornici ruskoga jezika, a žive u Mađarskoj.

Na skupovima HDPL-a niz izlaganja tradicionalno je posvećen poučavanju jezika. Tako su Ivana Lukica i Renata Šamo istraživale motivaciju studentske populacije za čitanje na engleskome jeziku, Ariana Violić-Koprivec i Jasenka Maslek bavile su se izazovima vezanima uz motivaciju za učenje francuskoga i talijanskoga kao stranih jezika u strukovnom obrazovanju, a Mirjana Semren i Danijela Šegedin Borovina analizirale su učinkovitost učenja engleskoga jezika kao drugoga i stranoga jezika na nastavi i izvan nastave. Ovladavanje razrednim diskursom studenata i nastavnika engleskoga i njemačkoga kao inoga jezika proučavale su Mirela Landsman Vinković i Marija Lütze-Miculinić. Pitanjima spontanoga usvajanja engleskoga i talijanskoga jezika u splitskoj gradskoj sredini bavili su se Sara Brodarić Šegvić, Magdalena Nigoević i Darko Hren. Maja Pivčević provela je istraživanje o medujezičnoj i višejezičnoj svjesnosti (ne)određenosti i upozorila na potrebu pronalaska novih načina obrade člana u nastavi stranih jezika. Branka Drljača Margić i Irena Vodopija-Krstanović izložile su nova istraživanja u području engleskoga jezika kao jezika visokoškolske nastave (EJVIN-a/EMI-a). Nejla Kalajdžisalihović u radu *Sentence completion and comprehension in advanced students of EFL – A case study / Završavanje i razumijevanje rečenice kod naprednih učenika engleskoga kao stranoga jezika – studija slučaja* istraživala je produkciju započetih rečenica te prijevod tzv. *garden-path* rečenica. Annie Burger u izlaganju *Consumer texts in complex contexts: The relationship between contextual and extratextual factors and the effective use of plain language / Tekstovi za potrošače u složenim kontekstima: odnos kontekstualnih i izvantekstnih čimbenika te učinkovita uporaba jednostavnoga jezika* govorila je o suvremenim izazovima u konstruiranju tekstova na engleskome jeziku prema načelima

postavljenima za tzv. *plain language*, i to u području medicine, ekonomije i prava. Irena Marković istražila je ulogu konteksta u dohvaćanju značenja nepoznatih metaforičkih izraza pri učenju talijanskoga kao stranoga jezika. Ana Mikić Čolić i Maja Glušac izlagale su o značajkama pisanoga diskursa govornika koji uče hrvatski jezik kao drugi i strani, a Biljana Stojanovska iznijela je rezultate istraživanja provedenoga na Lektoratu za makedonski jezik Filozofskoga fakulteta u Rijeci ponudivši smjernice za učinkovitije poučavanje člana u makedonskome jeziku.

Analizi udžbenika posvećeno je više radova. Ivana Moritz u radu *Visual metonymy in English textbooks for young learners / Vizualna metonimija u udžbenicima za engleski jezik namijenjenima mlađoj dobi* analizira funkciju metonimijskih koncepata te njihovu primjerenošć s obzirom na uzrast i kognitivne sposobnosti djece. O pristupima učenju i poučavanju hrvatskoga jezika u osnovnoškolskim udžbenicima izrađenima po novom kurikulu izlagala je Jadranka Nemeth Jajić. Ivana Jarebić govorila je o jezičnoj djelatnosti pisanja u srednjoškolskoj nastavi hrvatskoga jezika. Lidija Cvikić provela je kvalitativnu analizu na korpusu osnovnoškolskih udžbeničkih tekstova iz biologije, geografije i povijesti s ciljem razmatranja lingvističkih sredstava pomoću kojih se uspostavlja komunikacija između autora i čitatelja. Maja Balić Motušić istraživala je usvajanje interrogativnih gramatičkih struktura u osnovnoškolskim udžbenicima engleskoga jezika. O razvoju različitih nastavnih materijala u nastavi engleskoga jezika u primarnome obrazovanju govorila je Petra Karabin. Andjela Milinović-Hrga analizirala je primjere u visokoškolskim jezičnim skriptama istražujući odnos jezika i ideologije u visokoškolskoj nastavi sedamdesetih godina 20. stoljeća.

Violeta Jurković, Mateja Dostal, Darja Mertelj i Saša Podgoršek predstavile su Erasmus+ projekt *TRAILS: LSP Teacher Training Summer School*, koji pod vodstvom Sveučilišta u Bordeauxu okuplja partnerske institucije iz više europskih zemalja i kojem je cilj podizanje kvalitete nastave jezika kao drugoga i stranoga.

Gramatičko označavanje habitualnosti u hrvatskome i talijanskome jeziku razmatrali su Danijel Tonkić i Maja Bilić. Saša Bjelobaba posvetio je svoje istraživanje semantici prijedloga, s posebnim naglaskom na istraživanje homonimije u slučaju talijanskoga prijedloga *da*, dok su Jakov Proroković i Katica Balenović govorili o usvajanju prijedloga u engleskome jeziku.

O prostorno-vremenskim metaforama te percepciji prostora i vremena u talijanskoj i španjolskoj frazeologiji izlagala je Antonia Luketin Alfirević.

Melita Alekса Varga, Ana Keglević i Kristina Feldvari predstavile su projekt izrade rječnika hrvatske paremiološke građe pruživši pritom i analizu suvremenih leksikografskih postupaka s obzirom na njihovu primjenjivost u izradi takva rječnika. Helena Pavletić istražila je različite leksikografske definicije termina koji su u pojmovnoj vezi s leksemom *grijeh* u kršćanskoj tradiciji. Daria Lazić analizirala je leksikografska načela primjenjivana u obradi građe koja se odnosi na društvene stereotipe. Analizi semantičkoga potencijala talijanizama na korpusu novinskih članaka Miljenka Smoje, napisanih na splitskoj čakavštini, svoje su izlaganje posvetile Maja Bezić i Nevena Čudina Turčinov.

Onomastičke priloge na temelju arhivskih istraživanja dali su Josip Lasić i Josipa Lizatović (dalmatinska antroponimija u razdoblju Trojedne Kraljevine) te Silvija Batoš (dubrovački antroponimski sustav).

Ana Mihaljević kontrastivnom i deskriptivnom analizom istražila je gramatički metajezik i gramatičke opise u latinskim i hrvatskim jezikoslovnim priručnicima. Tomislava Bošnjak Botica i Jurica Polančec u radu *Korpusno istraživanje dvosložnih i višesložnih imenica s dvostrukom množinskom paradigmom* analizirali su dubletne imenice kod kojih se ne javlja izrazita značajnska ili stilска razlika s obzirom na upotrebu kratkoga ili dugoga množinskog oblika. Marija Brala-Vukanović i Mihaela Matešić izlagale su o deiktičnosti zamjenice *tolik*, priloga *toliko* i interrogativa *kolik-koliko*, a Sanda Lucija Udier o pragmatičkim svojstvima neodređenih zamjenica u hrvatskome kao inome jeziku.

Josip Galić predstavio je svoje istraživanje odnosnih rečenica koje nemaju leksički izražen antecedent (tzv. "obezglavljenе" ili "slobodne" odnosne rečenice) na korpusu hrvatskoglagolskih neliturgijskih zbornika.

Korpusno istraživanje Jane Kegalj i Sandre Tominac Coslovich posvećeno je distribuciji kauzativnih kohezivnih sredstava u pravnim tekstovima (originalnim i prijevodnim) u području pomorstva. Analizom računalno-jezikoslovnih alata s ciljem automatiziranoga pronalaska pseudoanglizama u hrvatskome tekstu bavile su se Mirjana Borucinsky i Irena Bogunović. U izlaganju naslovljenom *What's on your mind?: How prefixes affect 'misliti' / Što vam je na umu? Kako prefiksi utječu na glagol 'misliti'?* Mihaela Matešić i Anita Memišević izvijestile su o rezultatima korpusnoga istraživanja semantike glagola izvedenih od glagola *misliti*.

Translatološkim izazovima svoje su radove posvetili: Dubravka Vidaković Erdeljić i Goran Milić (istražujući prevođenje osobnih zamjenica u beletrističkim tekstovima s engleskoga izvornika na hrvatski), Aisha Futura Tüchler i Damar

Hoogland (razmatrajući rod u prijevodnim tekstovima s njemačkoga na hrvatski) te Iva Grubišić Ćurić (istražujući prijevodne tekstove u ugostiteljstvu). Na temelju kontrastivne analize prijevodnih strategija u hrvatskim i talijanskim sinkronizacijama animiranih filmova Andrea Rogošić zaključuje da je verbalni humor u hrvatskim sinkronizacijama više očuvan nego u talijanskima, što se postiže većom zastupljenosti kompenzacijskih prijevodnih rješenja. Istraživanju jezika u digitalnoj komunikaciji radove su posvetili: Ante Baran i Barbara Vodanović (istražujući feminizaciju naziva zanimanja s nastavkom -eur kod internetskih korisnika u Francuskoj), Rebecca Charry Roje (analizirajući tekstove na engleskome jeziku koji se objavljaju na mrežnim stranicama kao recenzije korisnika), Snježana Bralić (analizirajući tekstove na blogovima, forumima i društvenim mrežama na talijanskome jeziku) i Katja Nadine Passeri (motreći značajke dijaloga s umjetnom inteligencijom).

Ivana Špiranec istraživanje je posvetila ulozi termina u dinamičnome suodnosu značenja stručnoga i općega jezika, Lia Dragojević poučavanju engleskoga pomorskog nazivlja na visokoškolskoj razini, a Ana Ostroški Anić nazivlju u zrakoplovstvu. Ana Banovac, Toni Ljubić, Ivan Jerković, Ivana Kružić, Bruno Nahod, Perina Vukša Nahod i Željana Bašić izložili su rezultate istraživanja forenzičkoga strukovnog nazivlja. Lana Hudeček i Milica Mihaljević predstavile su rezultate istraživanja hrvatskoga jezikoslovnog nazivlja u okviru projekta *Jena*. Povjesname nazivlju za školstvo, odgoj i obrazovanje svoje je izlaganje posvetila akademkinja Ljerka Šimunković.

Zdravka Biočina i Iva Bašić izvijestile su o rezultatima provedene slušne, akustičke i formantske analize diftonga u bračkim čakavskim govorima, Marijana Tomelić Ćurlin opisala je jezične posebnosti mjesnoga govora Kljaka u Drniškoj krajini, a o *Značajkama višejezičnosti arbanaške jezične zajednice* izlagala je Mirta Tomas.

Ivana Petrović i Mirela Plenković predstavile su istraživanje razlika u poimanju stupnja uvredljivosti psovki u prvome i drugome jeziku kod dvojezičnih studenata (hrvatsko-engleskih).

Dunja Pavličević-Franić i Katarina Aladrović Slovaček na temelju istraživanja provedenoga metodom strukturiranoga intervjeta govorile su o regiolektnim idiomima na granici između dijalekta i standardnoga hrvatskog jezika, jednoj od najizazovnijih sociolingvističkih tema u suvremenim kroatističkim istraživanjima.

Konstruiranju diskursa o klimatskim promjenama u hrvatskim i anglofonim medijima rad su posvetile Ivana Bašić, Marina Grubišić i Snježana Veselica-Majhut.

Tanja Gradečak i Nevena Čosić predstavile su u izlaganju naslovljenom *Opacity and transparency of metonymic meaning on the example of Brexit / Nепрозирност и прозирност метонимиčнога значења на примеру Brexit-a* istraživanje metonimije na korpusu britanskih novinskih i tabloidnih portala. Naoko Hosokawa analizirala je primjere iz suvremene javne komunikacije u japanskome društvu na temelju kojih se otkrivaju društveni stavovi prema internacionalizaciji i globalizaciji. Daniela Matić govorila je o novijoj pojavi uvođenja diskursa tržišta u visokome obrazovanju u Hrvatskoj. Analizama na književnim predlošcima svoje su radove posvetile: Magdalena Mrčela (razmatrajući jezično i izvanjezično u Marulićevim epigramima), Mateja Čuljak (istražujući ulogu mema u *Pričama iz davnine*), Amela Ljevo-Ovčina (istražujući višejezičnost u Vodolazkinovom romanu *Brisbane*) te Zrinka Jelaska i Jelena Đorđević (analizirajući leksičke, sintaktičke i semantičke značajke proroštva o Petrovoj zataji u hrvatskome prijevodu Novoga zavjeta Bonaventure Dude i Jerka Fućka). O biblijskim leksičkim binomima u hrvatskome i u drugim europskim jezicima izlagali su Maslina Ljubičić i Damir Mišetić.

Tradicionalno, nakon održanoga skupa u pripremi su dva zbornika znanstvenih radova, u suradnji s izdavačima Srednjom Europom iz Zagreba i Peterom Langom iz Berlina.

Iako su sudionici ovu prvu izvedbu na daljinu prihvatili s oduševljenjem i ocijenili je vrlo uspješnom, ipak ostaje nada da će se sljedeći skup HDPL-a, pod predsjedanjem novoga vodstva Društva – predsjednice Tanje Gradečak i tajnice Ane Mikić Čolić s Filozofskoga fakulteta u Osijeku – održati u boljim epidemiološkim uvjetima i *in situ* u Gradu na Dravi. Upravo je tako i planirano: trideset i petom skupu HDPL-a, koji će biti posvećen jeziku u digitalnom okruženju, želimo uspješno održavanje u rujnu ove godine.

Prikaz

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Diana Tomić

dtomic@ffzg.hr

Filozofski fakultet Sveučilišta u Zagrebu

Hrvatska

Izvještaj o radu Odjela za fonetiku od listopada 2016. do lipnja 2020. godine

U akademskoj godini 2016./2017. s radom je započelo predsjedništvo Odjela za fonetiku u sastavu: dr. sc. Diana Tomić (Odsjek za fonetiku), dr. sc. Ivančica Banković Mandić (Croaticum – Centar za hrvatski kao drugi i strani jezik), dr. sc. Boška Munivrana Dervišbegović (Poliklinika SUVAG) i Ivana Šušković, prof. (Microton d.o.o.). Ciljevi rada predsjedništva bili su održati postojeće aktivnosti Odjela, otvoriti rasprave o statusu i pitanju fonetičara i proširiti djelovanje i aktivnosti.

Predavanja održana u sklopu Odjela za fonetiku (2016. – 2020.)

Tijekom četverogodišnjega mandata održano je 30 predavanja u sklopu šest tematskih ciklusa koji odražavaju interdisciplinarnost fonetike unutar hrvatske znanstvene i stručne zajednice. U nastavku ih navodimo kronološki.

1. Slušna pomagala – suvremenii pristup (koordinatorica Ivana Šušković, prof.)
 - Davor Šušković, mag. ing. el. techn. inf. (Microton d.o.o.): *Slušna pomagala danas – najnovija tehnologija* (7. studenoga 2016.)
 - Maja Lakuš, mag. educ. phon. rehab. (NEUROTH slušna pomagala d.o.o.): *Jednostrano ili obostrano nošenje slušnih pomagala* (28. studenoga 2016.)
 - dr. sc. Sanja Vlahović, dr. med. (Poliklinika SUVAG): *Osobitosti dijagnostike i intervencije kod male djece oštećenoga sluha* (19. prosinca 2016.)
 - prof. dr. sc. Robert Trotić, dr. med. (KBC "Sestre milosrdnice"): *Kirurgija nagluhosti i gluhoće* (30. siječnja 2017.)
 - Stjepan Dubec, prof. (Poliklinika SUVAG): *Dometi verbotonalne rehabilitacije* (27. veljače 2017.)

2. Percepcija govora (koordinatorica dr. sc. Boška Munivrana Dervišbegović)

- Sanja Lanc, mag. logopedije (Poliklinika SUVAG): *Poremećaji slušnoga procesiranja* (27. ožujka 2017.)
- dr. sc. Maja Kelić (Poliklinika SUVAG): *Fonološka obrada u djece s disleksijom* (24. travnja 2017.)
- Mateja Konjevod, mag. educ. phon. rehab. (Poliklinika SUVAG): *Utjecaj modifikacije govora na diskriminaciju frikativa u šestomjesečnih beba* (22. svibnja 2017.)

3. Inojezični hrvatski (koordinatorica dr. sc. Ivančica Banković Mandić)

- dr. sc. Marica Čilaš Mikulić (Croaticum – Centar za hrvatski kao drugi i strani jezik Filozofskoga fakulteta Sveučilišta u Zagrebu): *Važnost korekcije izgovora u inojezičnom hrvatskom iz perspektive nefonetičara* (30. listopada 2017.)
- dr. sc. Sanda Lucija Udier (Croaticum – Centar za hrvatski kao drugi i strani jezik Filozofskoga fakulteta Sveučilišta u Zagrebu): *Ovladavanje enklitikama u hrvatskom kao inom jeziku* (27. studenoga 2017.)
- dr. sc. Maša Musulin (Odsjek za romanistiku Filozofskoga fakulteta Sveučilišta u Zagrebu): *Usporedba španjolskoga i hrvatskoga fonološkog sustava* (20. prosinca 2017.)
- prof. dr. sc. Zrinka Jelaska (Odsjek za kroatistiku Filozofskoga fakulteta Sveučilišta u Zagrebu): *Umna slika fonema: govorni i pisani ostvaraj* (29. siječnja 2018.)
- doc. dr. sc. Vesna Deželjin (Odsjek za talijanistiku Filozofskoga fakulteta Sveučilišta u Zagrebu): *Zbog čega je usvajanje hrvatskih standardnih naglasaka italofonim govornicima teško?* (26. veljače 2018.)
- izv. prof. dr. sc. Željka Čelić (Odsjek za istočnoslavenske jezike i književnosti Filozofskoga fakulteta Sveučilišta u Zagrebu): *Glasovi ruskoga jezika i hrvatska narječja kao pomoć pri njihovom usvajanju* (26. ožujka 2018.)
- doc. dr. sc. Kristina Katalinić (Odsjek za hungarologiju Filozofskoga fakulteta Sveučilišta u Zagrebu): *Usporedba mađarskoga i hrvatskoga fonološkog sustava iz perspektive mađarskoga kao L2* (30. travnja 2018.)
- prof. dr. sc. Višnja Josipović-Smojver (Odsjek za anglistiku Filozofskoga fakulteta Sveučilišta u Zagrebu): *Pedeset nijansi kontrastivne fonologije* (28. svibnja 2018.).

4. Interdisciplinarni pristupi proučavanju komunikacije (koordinatorica doc. dr. sc. Diana Tomić)
 - doc. dr. sc. Jelena Jurišić (Hrvatski studiji Sveučilišta u Zagrebu): *Komunikologija – interdisciplinarna znanost* (29. listopada 2019.)
 - dr. sc. Ivana Čerkez Britvić (Hrvatski sabor): *Komunikacija medija i parlamenta* (26. studenoga 2019.)
 - izv. prof. dr. sc. Berto Šalaj (Fakultet političkih znanosti Sveučilišta u Zagrebu): *Populizam i demokracija* (17. prosinca 2019.)
 - doc. dr. sc. Sunčica Bartoluci (Kineziološki fakultet Sveučilišta u Zagrebu): *Komunikologija i sport* (28. siječnja 2019.)
 - prof. dr. sc. Nada Zgrabljić Rotar (Hrvatski studiji Sveučilišta u Zagrebu): *Komunikacijske znanosti danas: novi mediji, nove teorije* (25. veljače 2019.)
5. Suvremeni istraživački pristupi jeziku i govoru (koordinatorica doc. dr. sc. Diana Tomić)
 - prof. dr. sc. Julian Bradfield (Sveučilište u Edinburghu): *The sound of a spherical cow* (25. ožujka 2019.)
 - izv. prof. dr. sc. Marko Liker (Odsjek za fonetiku Filozofskoga fakulteta Sveučilišta u Zagrebu): *Koartikulacija: što sve ne znamo o govoru?* (15. travnja 2019.)
 - prof. dr. sc. Anita Peti-Stantić (Odsjek za južnoslavenske jezike Filozofskoga fakulteta Sveučilišta u Zagrebu): *Strukture vokabulara za strukture mišljenja: od fonetike do semantike* (20. svibnja 2019.)
6. Umjetnički govor i glas (koordinatorice – sve članice predsjedništva)
 - Ivana Gusak Bilić, mag. edu. (Akademija dramske umjetnosti Sveučilišta u Zagrebu): *Naglasak na studiju glume* (1. listopada 2019.)
 - Dubravka Obad: *Glas i govor dramskoga glumca* (28. studenoga 2019.)
 - Baldo Mikulić (ORPHEUS – Škola za otkrivanje glasa): *Škola za otkrivanje glasa* (19. prosinca 2019.)
 - prof. dr. sc. Gordana Varošanec-Škarić (Odsjek za fonetiku Filozofskoga fakulteta Sveučilišta u Zagrebu): *Kvaliteta pjevačkoga glasa* (30. siječnja 2020.)
 - Bojan Pogrmilović, vokalni pedagog (Ansambl LADO): *Folklorne tehnike pjevanja i fiziologija glasa – vokalni višeboj* (27. veljače 2020.)

Inozemna gošća:

- Laura Rio, doktorandica (Odsjek za kognitivnu znanost Sveučilišta u Bolonji): *The Italian known and unknown – Everyday objects database* (13. veljače 2020.)

Iako smanjena posjećenost predavanja koju smo tijekom mandata pokušali povećati promjenom vremena i lokacije održavanja predavanja nije u potpunosti prevladana, nadamo se da će poslije pandemije želja za druženjem i razmjenom znanja, iskustava i ideja prevladati te da će se u publici tražiti mjesto više.

Sastanci Predsjedništva Odjela za fonetiku

Predsjedništvo je u prvom dijelu mandata održalo niz sastanaka na kojima se razgovaralo o statusu fonetičara na tržištu rada, poteškoćama s kojima se fonetičari suočavaju i o mogućim rješenjima istih. Sastanci su uključivali ostale udruge fonetičara (Hrvatsku strukovnu udrugu i Udrugu fonetičara u zdravstvu, Verbotonalnu udrugu) te smo stupili u kontakt s Hrvatskom udrugom audiologa i fonijatara koji, s obzirom na blisku profesionalnu suradnju, zainteresiranim fonetičarima omogućavaju članstvo.

Trenutačno su u izradi standardi zanimanja u kojima će biti opisan rad fonetičara. Za prijavu u registar zanimanja Hrvatskoga kvalifikacijskog okvira izrađuju se dva standarda: fonetičar i klinički lingvist i fonetičar kao dio projekta Izazovi za društvene i humanističke znanosti: novi studiji i sustav kvalitete Filozofskoga fakulteta u Zagrebu. Krajem 2019. i početkom 2020. održane su fokusne skupine koje su dio procesa izrade standarda zanimanja. Na fokusnim skupinama raspravljalo se o ključnim poslovima te potrebnim znanjima i vještinama nužnim za kvalitetan rad fonetičara na različitim radnim mjestima. U razgovorima je potvrđena raznolikost poslova koje fonetičar obavlja i, slijedom toga, različitost mišljenja struke o kompetencijama koje su mu potrebne, ali i nužnost nastavka takvih razgovora s ciljem osvještavanja samoga tržišta rada o neuobičajenim no suvremenim kompetencijama koje fonetičar ima.

Znanstvena djelatnost – skupovi i časopis

Tijekom mandata organizirana su četiri skupa: 9. i 10. znanstveni skup *Istraživanja govora* te 4. i 5. međunarodna konferencija *Dani Ive Škarića*, no peti *Dani Ive Škarića*, zbog pandemije nisu održani, ali je objavljena pripremljena knjiga sažetaka.

Iako smo o tome ranije izvještavali, navodimo predsjednike Organizacijskih i Programskih odbora naših skupova. Predsjednica Organizacijskoga odbora devetih *Istraživanja govora* bila je doc. dr. sc. Elenmari Pletikos Olof, a predsjednik Programskoga odbora izv. prof. dr. sc. Nikolaj Lazić. Središnja tema skupa bila je prozodija govora. Predsjednik Organizacijskoga odbora desetih *Istraživanja govora* bio je izv. prof. dr. sc. Marko Liker, a predsjednica Programskoga odbora izv. prof. dr. sc. Jelena Vlašić Duić. Središnja tema skupa bila je koartikulacija i instrumentalne fiziološke tehnike. Voditelj 4. međunarodne konferencije *Dani Ive Škarića* bio je Davor Stanković, prof. kao predsjednik Organizacijskoga odbora i izv. prof. dr. sc. Anita Runjić-Stoilova kao predsjednica Programskoga odbora, dok su pete *Dane Ive Škarića* pripremale doc. dr. sc. Alma Vančura u ulozi predsjednice Organizacijskoga odbora i prof. dr. sc. Gordana Varošanec-Škarić kao predsjednica Programskoga odbora.

Odlukama organizatora devetih *Istraživanja govora* i četvrtih *Dana Ive Škarića* o administrativnoj i finansijskoj organizaciji konferencija unutar Hrvatskoga filološkog društva, a provedenim uz suglasnost užega Predsjedništva HFD-a, Odjel za fonetiku samo formalno postaje suorganizator spomenutih događanja te se skupovi mogu organizirati u potpunosti bez sudjelovanja Odjela. Svjesni pragmatičnosti takvih odluka skrećemo pozornost, kako budućem Predsjedništvu tako i budućim organizatorima skupova, da Odjel ima različite uloge u organizaciji te da bi se praksa kojoj smo svjedočili tijekom mandata trebala mijenjati, odnosno Odjel za fonetiku bi trebao biti aktivno uključen u pripreme od samoga početka, tj. imenovanja predsjednika odbora do sudjelovanja u natječajima i promociji skupa.

Časopis *Govor* je pod vodstvom glavne i odgovorne urednice prof. dr. sc. Gordane Varošanec-Škarić od 2015. godine te je na početku mandata ovoga Predsjedništva, a godinu dana poslije promjene glavne urednice, postigao i zadržao redovitost, u cijelosti je digitaliziran i uključen na portal Hrčak što povećava vidljivost i citiranost. Časopis je i dalje klasificiran u nacionalnoj klasifikaciji kao A1, izlazi redovito, slijedi suvremene uređivačke trendove i najvećim je dijelom financiran iz sredstava Ministarstva znanosti i obrazovanja.

Projekti

U skladu s postavljenim ciljevima, tijekom mandata su ostvarena dva stručna projekta: proGOVORi i Mali i veliki čitači.

Projekt proGOVORi proveden je u Gimnaziji Antuna Vrančića u Šibeniku tijekom akademske godine 2017./2018. u organizaciji Odjela za fonetiku, a financiralo ga je Ministarstvo znanosti i obrazovanja iz sredstava za Izvaninstitucionalni odgoj i obrazovanje. Autorice projekta su Ana Vlah, mag. educ. art. orator. i doc. dr. sc. Diana Tomić. Obrazovni program razvijen u sklopu projekta koristi sadržaje, odnosno znanja iz retorike i komunikologije, kako bi učenici osvijestili i unaprijedili vještine medijske i informacijske pismenosti, kritičko promatranje medija te kreiranje medijskih sadržaja u atmosferi neformalne edukacije.

Projekt Mali i veliki čitači je prijavljen u suradnji s OŠ Trnjanska i DV Iskrica iz Zagreba. Projekt je financirala Udruga RTL pomaže djeci. Autorica projekta je izv. prof. dr. sc. Jelena Vlašić Duić u suradnji s učiteljicama razredne nastave OŠ Trnjanska, a suradnice na projektu su doc. dr. sc. Elenmari Pletikos Olof i doc. dr. sc. Diana Tomić. Budući da projekt Mali i veliki čitači nije predstavljen u prethodnim izvještajima, opisat ćemo ga u nastavku.

Projekt se temelji na iskustvima učitelja i istraživanjima koja pokazuju da djeca premašu čitaju naglas i da se vrlo malo pozornosti posvećuje izražajnom čitanju. U Hrvatskoj se promiče čitanje naglas, postoje kampanje čitanja naglas i natjecanje u čitanju naglas, ali ne postoje projekti u kojima bi djeca čitala djeci. Projekt je zamišljen tako da studenti (*veliki čitači*) primjenom svojih fonetskih znanja, čitalačkih i edukacijskih vještina pouče djecu mlađega školskog uzrasta (*male čitače*) da postanu bolji čitači i unaprijede svoje izražajno čitanje naglas te da svojim izražajnim govornim izvedbama potaknu na čitanje i razvijanje aktivnoga slušanja djecu predškolskoga uzrasta. Studenti diplomskoga studija fonetike (odabrani po vrсnoći i pod vodstvom mentorica) poučavat će učenike od prvoga do četvrtoga razreda izražajnome glasnom čitanju. Na studiju fonetike studenti stječu kompetencije za uvježbavanje izražajnoga čitanja u kojem se stankama, tempom, intenzitetom, intonacijom, bojom glasa, diktijom i sl. interpretira tekst, tj. oslikavaju značenja, emocije, stavovi prema tekstu i ili publici. Nakon što sa studentima uvježbaju govornu izvedbu, nekoliko najboljih učenika-interpretatora posjetit će predškolsku skupinu u vrtiću i čitati im. Projekt Mali i veliki čitači trebao je biti proveden tijekom pandemijske godine, ali planirane aktivnosti, nažalost, nisu provedene, no kontakti s partnerskom školom i dalje su aktivni te se dogovaraju buduće aktivnosti, ovisno o epidemiološkoj situaciji.

Sudjelovanje na skupovima i ostale aktivnosti

Sudjelovanje članova na različitim međunarodnim i domaćim skupovima posebno je važna aktivnost o kojoj smo redovito izvještavali svih ranijih godina. U drugoj polovici 2019. održana su za fonetičare dva važna skupa: 19. međunarodni kongres fonetskih znanosti (ICPhS) i deseta *Istraživanja govora*. Oba skupa pojedinačno su prikazana u prošlom broju, dok je većina planiranih skupova za 2020. bila otkazana ili održana virtualno. Trend otkazivanja i virtualnih konferencijskih nastavki se nastavlja, što vidimo na primjeru konferencija na kojima redovito sudjeluju naši članovi, poput konferencije Međunarodne asocijacija za kliničku lingvistiku i fonetiku koja se odgađa za 2021. ili osme konferencije *Retorika u društvu* koja se odgađa za 2023.

Izbori novoga predsjedništva također su odgođeni zbog nemogućnosti organizacije izborne Skupštine uživo, jednako kao i redovita predavanja u akademskoj godini 2020./2021. Ovisno o epidemiološkoj situaciji, izborna skupština je planirana za lipanj 2021., a sve aktivnosti Odjela su zamrzнуте u akademskoj godini 2020./2021.

Prilično izazovan četverogodišnji mandat, koji je započeo financijskim izazovima koje smo djelomično prevladali, a završio pandemijom koju tek prevladavamo, ipak procjenjujemo kao uspješan. Većina ciljeva je ostvarena, te smo, što je možda čak i važnije, utvrdili prioritete na kojima u budućnosti treba raditi. Zbog toga se nadamo da će kolege koji će preuzeti funkciju završiti zadatke koji ostaju nedovršeni, poput izmjene važnog, ali pomalo zastarjelog Pravilnika Odjela za fonetiku iz 1995., i uspješno nastaviti sa svim već tradicionalnim aktivnostima.

Predsjedništvo na kraju želi i u pisanom obliku zahvaliti svima koji su sudjelovali u (p)opisanim aktivnostima: svim predavačima koji su izdvojili svoje vrijeme i podijelili znanje na stručnim predavanjima, ali i publici koja je imala potrebu doći, vodstvima strukovnih udruženja fonetičara na dijalogu, fonetičarima iz različitih djelatnosti te ostalim stručnjacima na odazivu za sudjelovanje u vođenim raspravama u sklopu fokusnih skupina, predsjednicima Organizacijskih i Programskih odbora naših skupova, glavnoj urednici i uredništvu časopisa *Govor*, autoricama projekata koji su održani tijekom ovoga četverogodišnjeg razdoblja i svim članovima Odjela za fonetiku koji unaprijeđuju struku.

Novo Predsjedništvo još uvijek nije izabrano, no i njima, tko god da bio, želimo uspješan i plodan mandat uz iskrenu, kolegijalnu podršku.

UPUTE AUTORIMA

Časopis *Govor* objavljuje znanstvene i stručne priloge koji pridonose razvoju znanosti o govoru – izvorne znanstvene radove, studije, stručne radove, pregledne članke, znanstvene eseje, prethodna priopćenja i prikaze. Časopis izlazi dva puta godišnje. Rukopisi se šalju elektroničkom poštom na adresu govor@ffzg.hr.

Primaju se radovi na hrvatskom i engleskom jeziku. Molimo Vas da svakom rukopisu pisanom na hrvatskom jeziku, a koji je pripremljen prema uputama, priložite na kraju još i na engleskom jeziku naslov, opis slika i tablica te prošireni sažetak (*summary*) opsega od 1 800 do 2 500 znakova. Iz tog sažetka te opisa slika i tablica čitatelji koji će čitati samo dijelove teksta na engleskom trebaju saznati najvažnije informacije koje je autor člankom želio prenijeti. Savjetujemo da prošireni sažetak uključuje vrlo kratak uvod i postavljanje problema, opis istraživanja, dobivene rezultate i kratak komentar.

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slikovni prilog. Slikovni bi prilozi trebali biti crno-bijeli, oblikovani tako da se jasno vide svi elementi s obzirom na format časopisa.

6. Svaku tablicu treba obilježiti arapskim brojem i opisom na hrvatskom i engleskom jeziku (primjerice: Tablica 1. Rezultati prvog eksperimenta, Table 1. Results of the first experiment). Tekstualne dijelove tablice treba prevesti na engleski ili hrvatski jezik. Tablicu treba priložiti na kraju rukopisa, a u tekstu je potrebno označiti mjesto na kojem se tablica treba nalaziti.
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Knjiga

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Članak u časopisu

Gospodnetić, J. (1982). Načela fonetike i njezin napredak. *Govor*, 4(2), 93–108.

Članak u zborniku radova

Blumstein, S. (1995). On the neurobiology of the sound structure of language: Evidence from aphasia. U K. Elenius i P. Branderud (ur.), *Proceedings of the XIIIth International Congress of Phonetic Sciences*, vol. 2 (str. 180–185). Stockholm: KTH i Sveučilište u Stockholmu.

Članak odnosno poglavlje u knjizi više autora

MacNeilage, P. F. (1999). Acquisition of speech. U W. J. Hardcastle i J. Laver (ur.), *The Handbook of phonetic sciences* (str. 301–332). Oxford, UK; Malden, Mass.: Blackwell Publishers.

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Book section

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