

Uvodnik

Pisna zmožnost je predpogoj za posameznikovo polno in enakopravno udejstvovanje v demokratični družbi. Njen razvoj sega od začetnega opismenjevanja do tvorjenja zahtevnejših besedil v izobraževalnem procesu ter poklicnem in zasebnem življenju. Razvoj posameznikove pisne zmožnosti je torej dolgotrajen in večplasten proces, katerega učinkovitost je temelj za siceršnjo izobraževalno, poklicno, pa tudi osebno uspešnost.

V šolskem okolju razvoj pisne zmožnosti usmerjajo in podpirajo učiteljice in učitelji: v osnovnih in srednjih šolah predvsem – ne pa izključno – jezika, na fakultetah pa visokošolski učitelji in učiteljice jezikovno znanje nadgrajujejo v smer strokovnega pisanja. Za razvoj pisne zmožnosti in pisnih spretnosti je seveda treba veliko pisati. Več pisanja pa za učitelje pomeni več dela s pregledovanjem besedil in podajanjem povratne informacije. Želje, da bi v pouk vključili več pisanja, tako trčijo ob realnost poučevanja, v kateri so učitelji izrazito časovno obremenjeni, pogosto pa tudi gradivno in strokovno nepodprti.

Digitalni jezikovni viri in orodja, v zadnjem času zlasti rešitve, ki jih ponuja generativna umetna inteligenca, ponujajo možnost za učinkovitejše, strojno podprto spremljanje in spodbujanje razvoja pisne zmožnosti pri učencih. Takšna podpora lahko učitelje časovno razbremeni in jim omogoči uvide, ki brez digitalnega spremljanja niso preprosto dostopni. Ob tem pa se zastavljajo pomembna vprašanja o pedagoški ustreznosti in natančnosti novih orodij, pa tudi etičnih vidikih in dolgoročnih učinkih njihove uporabe tako za učitelje kot za učence. Nekatere digitalne rešitve, zlasti sistemi za samodejno popravljanje, so že bile preizkušene in ocenjene v jezikih, kot je angleščina, medtem ko se primerljiva infrastruktura za slovenščino še oblikuje.

Tematska številka *Digitalna podpora učiteljskemu popravljanju šolskih besedil: stanje, želje in izzivi* obravnava naslovno tematiko v interdisciplinarnem prepletu pedagogike, jezikoslovja, jezikovne didaktike in strojne obdelave naravnega jezika. Prispevki, objavljeni v slovenščini ali angleščini, osvetljujejo stanje na področju pisanja in povratne informacije v slovenskih šolah, potrebe in pričakovanja učiteljev, razvoj jezikovnih virov ter možnosti in omejitve sodobnih jezikovnih tehnologij za slovenščino. Združuje jih prizadevanje za oblikovanje empirično utemeljenih, tehnološko podprtih in pedagoško premišljenih rešitev, ki bi lahko izboljšale prakso popravljanja pisnih izdelkov in prispevale k učinkovitejšemu razvoju pisne zmožnosti v slovenščini kot prvem ali neprvem jeziku.

Uvodna prispevka se posvečata jezikovnim virom in jezikoslovnim analizam, ki predstavljajo temelj za oblikovanje opisnikov in kazalnikov, pripravo smernic za izobraževanje učiteljev ter razvoj drugih empirično utemeljenih gradiv v podporo podajanju povratne informacije za razvoj pisne zmožnosti v slovenščini. V prispevku *Prvi koraki do seznama temeljnega šolskega besedišča* **Iztok Kosem in Eva Pori** predstavita izdelavo seznama temeljnega šolskega besedišča za slovenščino, ki bi bil primerljiv s podobnimi viri v drugih jezikih. Na podlagi pregleda

obstojećih seznamov in korpusnih virov analizirata skladnosti in razlike v zajetju ključnih besed, pri čemer izpostavita pomanjkljivosti obstoječih seznamov ter razliko med recepcijo in produkcijo. Diahrona analiza izbranih besed iz učbenikov in šolskih izdelkov pokaže spremembe v rabi na časovni in pomenski ravni, kar avtorja predstavlja kot pomembno izhodišče za nadaljnje raziskave in pripravo celovitega, funkcionalnega šolskega leksikona.

Polona Gantar in Mija Bon v prispevku *Dati skozi ali prestati? Napake in jezikovne variante v rabi večbesednih enot pri samostojnem tvorjenju besedil v osnovni in srednji šoli* obravnavata težave, ki jih imajo učenci in dijaki pri rabi večbesednih enot, pri čemer izhajata iz učiteljskih popravkov v korpusu *Šolar 3.0* in učne množice *Šolar-Eval*. Analiza pokaže raznolikost ubeseditvenih možnosti, od dejanskih napak, ki povzročijo nerazumevanje ali nenavadno izbiro, do sprejemljivih variant, ki so v jeziku enakovredne, kar odpira pomembna vprašanja za oblikovanje povratne informacije in razvoj orodij, ki bodo znala upoštevati jezikovno variabilnost.

V drugem sklopu sta prispevka, ki raziskujeta trenutne prakse popravljanja pisnih izdelkov v slovenskem osnovnošolskem in srednješolskem kontekstu. V prispevku *Popravljanje pisnih besedil učencev in dijakov pri različnih predmetih: vpogled v rezultate ankete učiteljev* **Lara Godec Soršak in Alenka Rot Vrhovc** predstavita rezultate obsežne ankete med učitelji, ki razkrivajo pomembne razlike v načinih popravljanja glede na predmetno področje. Ugotavljata, da učitelji slovenščine in razrednega pouka namenijo več pozornosti jezikovni povratni informaciji, medtem ko so učitelji drugih predmetov pri tem pogosto prepuščeni sami sebi. Prispevek potrjuje potrebo po razvoju orodij, ki bi učitelje razbremenila rutinskih popravkov in bila prilagojena različnim pedagoškim kontekstom.

Špela Arhar Holdt in Tina Munda v prispevku *Jezikovno popravljanje v digitalnem okolju: kvalitativna študija z učiteljicami in učitelji slovenščine* predstavita rezultate raziskave, v kateri je sodelovalo 18 učiteljev z različnih vrst šol, ki so preizkusili obstoječa in novorazvita orodja za digitalno pregledovanje besedil. Analiza intervjujev pokaže, da imajo učitelji jasna priporočila glede natančnosti, preglednosti in pedagoške prilagodljivosti obstoječih rešitev, hkrati pa nakažejo področja, kjer bi bila digitalna podpora najbolj učinkovita. Avtorici na osnovi rezultatov ponudita izhodišča za razvoj naprednejših popravljalnih orodij, prilagojenih dejanskim potrebam in željam učiteljev.

Tretji sklop prinaša prispevke v angleškem jeziku, ki obravnavajo digitalne pristope k popravljanju pisnih besedil v različnih kontekstih. **Karmen Pižorn in Melita Lemut Bajec** v prispevku *Sistematični pregled digitalnih pomočnikov za pisanje pri pouku angleščine kot tujem jeziku* predstavita sistematični pregled raziskav o vlogi digitalnih pisnih asistentov, ki ponujajo avtomatizirano pisno povratno informacijo pri učenju angleščine kot tujega jezika. Analiza 22 študij, objavljenih med letoma 2018 in 2023, pokaže, da so tovrstna orodja cenjena zaradi takojšnje in natančne povratne informacije ter pozitivnega vpliva na kakovost pisanja, hkrati pa avtorici poudarita pomen hibridnega pristopa, v katerem avtomatizirano povratno informacijo dopolnjuje učiteljeva strokovna presoja.

Matej Klemen, Martin Božič, Špela Arhar Holdt in Marko Robnik-Šikonja v prispevku *Popravljanje slovničnih napak v slovenskih esejih z velikimi jezikovnimi modeli* predstavijo razvoj slovenskih modelov za avtomatsko popravljanje slovničnih napak v šolskih besedilih, temelječih na arhitekturah BERT in T5. Evalvacija na množici *Šolar-Eval* pokaže razmeroma visoko natančnost pri prepoznavanju in popravljanju različnih tipov napak, analiza pa ob tem razkrije izzive, povezane z ustreznostjo popravkov v pedagoškem kontekstu, ter nakaže možnosti za nadaljnje izboljšave modelov in evalvacijskih postopkov.

Milena Košak Babuder, Mojca Poredoš in Karmen Pižorn v prispevku *Digitalno podprto učenje študentov s specifičnimi učnimi težavami v visokošolskem izobraževanju*, ki je objavljen tako v angleškem kot v slovenskem jeziku, obravnavajo izzive, s katerimi se v visokošolskem izobraževanju srečujejo študenti s specifičnimi učnimi težavami, ter vlogo digitalnih tehnologij pri premagovanju teh ovir. Avtorice izpostavijo koncept univerzalnega oblikovanja učenja (UDL), ki spodbuja prilagodljivost, dostopnost in aktivno vključevanje vseh študentov, obenem pa opozorijo na tveganja prevelike odvisnosti od tehnologije ter na potrebo po ustreznem usposabljanju visokošolskih učiteljev in sistemskih spremembah, ki bi zagotovile pravičnejše pogoje za učenje.

Prispevki v tematski številki jasno kažejo, da je digitalna podpora pri popravljanju šolskih besedil hkrati priložnost in izziv: odpre možnosti za razbremenitev učiteljev in večjo učinkovitost povratne informacije, obenem pa zahteva premišljeno vključevanje v pedagoško prakso. Učitelj ostaja nepogrešljiv nosilec strokovne presoje in pedagoške odgovornosti, zato lahko tehnologije dosežejo svoj namen le, če temeljijo na empiričnih podatkih, upoštevajo kompleksnost jezikovne rabe ter nastajajo v sodelovanju s stroko. Po širokem razmahu generativnih tehnologij je še posebej pomembno, da učenci pisno zmožnost razvijajo samostojno in celovito. V sodobni pedagogiki se vprašanje digitalne podpore pisanju tako kaže kot iskanje ravnotežja med tehnologijo in avtonomijo, med avtomatizacijo in kakovostjo ter med dostopnostjo in utemeljenostjo. Ta številka ponuja vpogled v trenutno stanje na področju, zlasti pa odpira prostor za kritično refleksijo in oblikovanje rešitev, ki bodo podpirale učinkovit in strokovno utemeljen razvoj pisanja v digitalni dobi.

Dr. Špela Arhar Holdt in dr. Klara Skubic Ermenc, tematski urednici

Editorial

Written ability is a basic condition for an individual's full and equal participation in a democratic society. It develops from initial literacy to the creation of more complex texts in the educational process and in professional and private life. The development of an individual's written ability is therefore a lengthy and multifaceted process, the effectiveness of which is the basis for educational, professional, as well as personal success.

In primary and secondary schools, the development of writing skills is guided and supported primarily – but not exclusively – by language teachers, while at universities, language skills are further developed by university teachers leading their students towards professional writing. To develop writing ability and writing skills, it is of course necessary to write a great deal. However, more writing means more work for teachers in terms of assessing texts and providing feedback. The desire to incorporate more writing into lessons clashes with the reality of teaching, in which teachers are under considerable time pressure and often lack material and professional support.

Digital language resources and tools, particularly those based on generative artificial intelligence, offer the possibility of more effective, machine-assisted monitoring and promotion of the development of writing skills in students. Such support can free up teachers' time and provide them with insights that are not easily accessible without digital monitoring. This raises important questions about the pedagogical appropriateness and accuracy of the new tools, as well as the ethical aspects and long-term effects of their use on both teachers and students. While certain digital solutions, particularly automatic correction systems, have already been tested and evaluated for languages such as English, comparable infrastructure for Slovenian is still being developed.

This thematic issue of our journal, *Digital Support for Teachers' Correction of School Texts: Current Situation, Aspirations, and Challenges*, addresses the topic in an interdisciplinary context, combining pedagogy, linguistics, language didactics, and machine processing of natural language. The articles, published in Slovenian and English, shed light on the state of writing and feedback in Slovenian schools, the needs and expectations of teachers, the development of language resources, and the possibilities and limitations of modern language technologies for Slovenian. Their authors share a common goal of developing empirically grounded, technologically supported, and pedagogically sound solutions that could improve the practice of correcting written work and contribute to a more effective development of writing skills in Slovenian as a first or non-first language.

The two opening papers focus on language resources and linguistic analyses, which are the basis for creating descriptors and indicators, preparing guidelines for teacher training, and developing other empirically based materials to support feedback for developing writing skills in Slovenian. In their article, *First steps towards a list of basic school vocabulary*, **Iztok Kosem and Eva Pori** present the

creation of a list of basic school vocabulary for Slovenian that would be comparable to similar resources in other languages. Based on a review of existing lists and corpus resources, they analyse the similarities and differences in the keywords they cover, highlighting the shortcomings of existing lists and the difference between reception and production. A diachronic analysis of selected words from textbooks and school materials reveals changes in usage over time and in meaning, which the authors recognize as an important starting point for further research and the preparation of a comprehensive and functional school lexicon.

In *Getting through or overcoming it? Errors and linguistic variants in the use of multi-word units in independent text production in primary and secondary school*, **Polona Gantar and Mija Bon** address the problems that students have in using multi-word units, drawing on teacher corrections in the *Šolar 3.0* corpus and the *Šolar-Eval* training set. Their analysis demonstrates the diversity of wording options, ranging from actual errors that cause misunderstanding or are unusual choices, to acceptable variants that are linguistically equivalent, raising important questions for the design of feedback and the development of tools that can take linguistic variability into account.

The second section contains two articles that explore current practices in correcting written work in Slovenian primary and secondary schools. In *Correcting students' written texts in different subjects: Insights from a teacher survey*, **Lara Godec Soršak and Alenka Rot Vrhovec** present the results of an extensive survey among teachers, which reveal significant differences in correction methods depending on the school subject. They conclude that Slovenian language teachers and primary-school classroom teachers pay more attention to language feedback, while teachers of other subjects are often left to their own devices. The article reaffirms the need to develop tools that would relieve teachers of routine corrections and be adapted to different pedagogical contexts.

Špela Arhar Holdt and Tina Munda's article *Language correction in the digital environment: A qualitative study with Slovenian language teachers* presents the findings of a study involving eighteen teachers from different types of schools who tested existing and newly developed tools for digital text checking. The analysis of interviews confirms that teachers can provide clear recommendations regarding the accuracy, transparency, and pedagogical flexibility of existing solutions, while also indicating areas where digital support would be the most effective. Based on the findings, the authors offer starting points for the development of more advanced correction tools tailored to the actual needs and wishes of teachers.

The third section features contributions that discuss digital approaches to correcting written texts in various contexts. **Karmen Pižorn and Melita Lemut Bajec** present a systematic review of research on the role of digital writing assistants that offer automated written feedback in learning English as a foreign language in their article *Systematic review of digital writing assistants in EFL writing instruction*. Their analysis of 22 studies published between 2018 and 2023 shows that such tools are valuable because of their immediate and accurate feedback and their positive impact on writing quality. At the same time, the authors

emphasize the importance of a hybrid approach, in which automated feedback is complemented by the teacher's expert assessment.

Matej Klemen, Martin Božič, Špela Arhar Holdt, and Marko Robnik-Šikonja present the development of Slovenian models for an automatic correction of grammatical errors in school texts based on BERT and T5 architectures in their paper *Grammatical error correction of Slovenian school essays using large language models*. The evaluation on the *Šolar-Eval* set demonstrates relatively high accuracy in recognizing and correcting various types of errors, while the analysis reveals challenges related to the appropriateness of the corrections in an educational context and indicates opportunities for further improvements to the models and evaluation procedures.

In their paper, *Digitally supported learning for students with specific learning difficulties in higher education*, **Milena Košak Babuder, Mojca Poredoš, and Karmen Pižorn** discuss the challenges faced by students with specific learning difficulties in higher education and the role of digital technologies in overcoming these barriers. The authors focus on the concept of Universal Design for Learning (UDL), which promotes flexibility, accessibility, and active inclusion of all students, while also pointing out the risks of over-reliance on technology and the need for appropriate training of higher education teachers and systemic changes that would ensure fairer learning conditions.

The articles in this special issue clearly show that digital support for correcting school texts is both an opportunity and a challenge: it unlocks possibilities for reducing teachers' workload and making feedback more effective, but it also necessitates careful integration into teaching practice. Teachers remain indispensable for expert assessment and pedagogical responsibility, which is why technologies can only achieve their purpose if they are based on empirical data, take into account the complexity of language use, and are developed in collaboration with experts. With the widespread use of generative technologies, it is particularly important that students develop their writing skills independently and comprehensively. In contemporary educational sciences, the question of digital support for writing is thus seen as a search for balance between technology and autonomy, between automation and quality, and between accessibility and justification. This issue offers insight into the current state of affairs in this field and, above all, it provides space for critical reflection and the development of solutions that will support the effective and professionally sound development of writing in the digital age.

Dr Špela Arhar Holdt and Dr Klara Skubic Ermenc
Thematic editors