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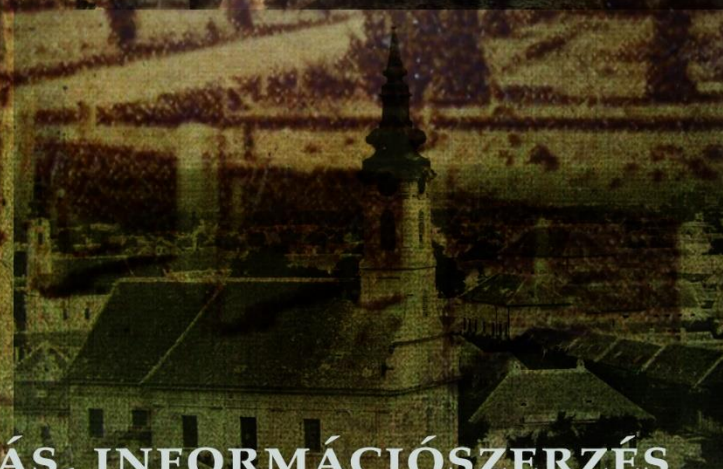

Ismeret és oktatás, információszerzés a digitális tudástérben

Az Eötvös József Főiskola tudományos folyóirata

DANUBIUS NOSTER

XIV. évfolyam, 2026/1. szám
Az Eötvös József Főiskola tudományos folyóirata

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A MAGYAR TUDOMÁNY ÜNNEPE

Az MTA programsorozata

DANUBIUS NOSTER XIV. évf. 2026/1. sz.

TARTALOM

Eötvös József mellszobra

Szabó Áron szobrászművész alkotása az Eötvös József Főiskola udvarán.

ELŐSZÓ

A *Danubius Noster* jelen (2026/1.) száma a kortárs neveléstudomány egyik alapvető kérdését állítja középpontba: miként jön létre és hogyan közvetítjük és értelmezzük a tudást egy egyre inkább digitalizált és hálózatokba szerveződő világban. A kötet tanulmányai abból a közös felismerésből indulnak ki, hogy az oktatás folyamatai ma már csak a technológiai változások, a nyelvi átalakulások és a társadalmi kontextusok összefüggésében érthetők meg igazán.

Az írások különböző tudományterületek felől közelítik meg a témát, ugyanakkor összekapcsolja őket az a kérdés, hogy a digitális környezet miként alakítja át a tanulást és a tudást. Salusinszky András és Budai László tanulmánya egy Digitális Ellátási Lánc Szimulációs Labor koncepcióját mutatják be, amely jól példázza, hogyan integrálható a felsőoktatásban az adatvezérelt gondolkodás, a fenntarthatóság és az ipari együttműködés. Ehhez kapcsolódva Bartal Orsolya írása a mobileszközök iskolai korlátozásának hatásait vizsgálja, különös tekintettel a digitális tőke egyenlőtlen eloszlására, ezzel fontos társadalmi és oktatáspolitikai dilemmákra világítva rá.

Számos tanulmány a pedagógiai gyakorlat és az osztálytermi folyamatok felől közelít. Preisendörfer Tímea a többszörös intelligencia elméletének alkalmazását vizsgálja az angol mint idegen nyelv tanításában, rámutatva arra, hogy a differenciált, akár intuitív módon alkalmazott módszerek is jelentősen hozzájárulhatnak a tanulói eredményességhez. Horvatić, Tea írása a digitális kommunikáció nyelvére fókuszál: az internetes szleng generációk közötti megítélését elemzi, és arra hívja fel a figyelmet, hogy a nyelvoktatásnak rugalmasan kell reagálnia a gyorsan változó nyelvi környezetre.

A nyelv, mint közvetítő közeg és vizsgálati tárgy több tanulmányban is hangsúlyosan jelenik meg. Smajić, Dubravka és Vodopija, Irena a horvát reklámnyelv elemzésén keresztül mutatják be a normatív nyelvhasználat és a globalizált – elsősorban angol nyelvi – hatások közötti feszültséget. A diskurzus és jelentésalkotás kérdéseit vizsgálja Šego, Jasna és Rosandić, Željka motivációs beszédekről szóló elemzése, valamint Šego, Jasna horvát TED-előadásokat feldolgozó tanulmánya is, amelyek a kortárs nyilvános kommunikáció retorikai sajátosságaira irányítják a figyelmet.

A kötet túlmutat az intézményes oktatás keretein, és a tanulás társadalmi beágyazottságára is reflektál. Pavić, Karla és Oreški, Predrag kutatása a szülők szerepét vizsgálja a gyermekek online védelmében, rávilágítva a digitális térben való eligazodás mindennapi kihívásaira. Kiš-Novak, Darinka és Ivančić, Sara a megfigyelés szerepét elemzik a természettudományos tanulásban, hangsúlyozva az aktív tanulás és a tapasztalati megismerés jelentőségét. Pogány Csilla irodalmi elemzése pedig a tudomány és erkölcs kapcsolatát vizsgálja, emlékeztetve arra, hogy a tudás kérdései elválaszthatatlanok etikai dimenzióiktól. Végül Győrfi Tamás és Patocskai Mária kvantitatív kutatása a mesterséges intelligenciában rejlő

lehetőségeket és kihívásokat vizsgálja abból a szempontból, hogy a felsőoktatásban részt vevő hallgatók és oktatók miként használják ezt a modern technológiát.

A folyóirat tanulmányai együtt árnyalt képet adnak az oktatás helyzetéről a digitális tudástérben, rámutatva a folyamatos reflexió, az alkalmazkodóképesség és az interdiszciplináris párbeszéd szükségességére, erősítve közben az oktatás alapvető szerepét, ahol a tudás nem csak közvetítve van, hanem új jelentésekkel gazdagodik.

Bízunk abban, hogy ezen lapszám tanulmányai hozzájárulnak a tudományos párbeszédhez, és inspirációt nyújtanak mindazok számára, akik az oktatás és a tudás kérdéseivel foglalkoznak, gazdagítva ezzel a *Danubius Noster* tudományos hagyományait.

Szőcs Krisztina
szerkesztő

FOREWORD

The present issue of *Danubius Noster* (2026/1.), engages with one of the defining questions of contemporary education: how knowledge is created, accessed, and interpreted in an increasingly digital and interconnected world. The studies in this volume share the underlying assumption that educational processes nowadays can only be fully understood within the broader context of technological change, linguistic transformation, and evolving social realities.

The papers approach this theme from a range of disciplinary perspectives, yet they are connected by a common concern with how digital environments reshape both learning and knowledge itself. András Salusinszky and László Budai present the concept of a Digital Supply Chain Simulation Lab, illustrating how higher education can respond to contemporary challenges by integrating data-driven thinking, sustainability, and collaboration with industry into teaching and learning. In a different but complementary vein, Orsolya Bartal's study examines the introduction of mobile device restrictions in educational settings, drawing attention to their unintended consequences, particularly in relation to inequalities in digital capital.

Several contributions focus more directly on pedagogical practice and classroom realities. Tímea Preisendörfer investigates the role of Multiple Intelligences theory in English as a Foreign Language (EFL) teaching, showing that even implicit or intuitive applications of differentiated approaches can positively influence student outcomes. Tea Horvatić's paper turns to the language of digital communication, exploring how internet slang is perceived and used across generations, and what this means for foreign language teaching in a rapidly changing linguistic landscape.

Language, as both a tool and an object of inquiry, is further foregrounded in the study by Dubravka Smajić and Irena Vodopija, who analyse Croatian advertising discourse and reveal the tension between prescribed language norms and the pervasive influence of global–predominantly English–linguistic patterns. Questions of discourse and communication are also central to the work of Jasna Šego and Željka Rosandić, who examine motivational speeches, as well as Jasna Šego's analysis of Croatian TED talks. Together, these studies offer insight into how meaning, persuasion, and identity are constructed in contemporary public discourse.

The volume extends beyond the classroom as it considers the larger social dimensions of learning in the digital age. Karla Pavić and Predrag Oreški investigate parental approaches to children's online safety, highlighting the complexity of managing digital environments in everyday life. Darinka Kiš-Novak and Sara Ivančić focus on observation as a foundation of active learning in the natural sciences, demonstrating both its pedagogical potential and its challenges in practice. Csilla Pogány's literary analysis reflects on the relationship between science

and morality in contemporary fiction, reminding us that questions of knowledge are inseparable from ethical considerations. Finally, the quantitative study by Tamás Győrfi and Mária Patocskai examines the potential and challenges of artificial intelligence from the perspective of how students and faculty in higher education use this modern technology.

All in all, the studies in this issue offer a multifaceted perspective on education in the digital knowledge space. They point to the need for continuous reflection, adaptability, and dialogue across disciplines and practices. At the same time, they reaffirm the enduring role of education as a space where knowledge is not only transmitted, but critically examined and meaningfully connected to human experience.

It is our hope that this volume will contribute to ongoing scholarly conversations and provide inspiration for educators, researchers, and students alike, while continuing the intellectual tradition of *Danubius Noster*.

Krisztina Szőcs
Editor

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Salusinszky András–Budai László

ADATBÓL TERMÉK, TUDÁSBÓL ÉRTÉK
A DIGITÁLIS ELLÁTÁSI LÁNC SZIMULÁCIÓS LABOR, MINT AZ ALKALMAZOTT TUDÁS ÉS TÁRSADALMI FELELŐSSÉG ÚJ TERE

Az alkalmazott tudás és társadalmi felelősség új dimenziói az ellátási láncok oktatásában

A 21. század globális gazdasági és társadalmi folyamatai alapvetően átalakították az ellátási láncok működését. A modern ellátási láncok összetettek, többszereplősek, földrajzilag kiterjedtek, és működésükre egyre inkább a dinamikus változás, a bizonytalanság és az egymással kölcsönhatásban álló döntések rendszere jellemző. E komplexitás következtében az ellátási láncok már nem értelmezhetők lineáris, statikus folyamatként; megértésükhöz és irányításukhoz rendszerszintű szemléletre, valamint valós folyamatmodellekre és szimulációkra van szükség.

Az oktatás hagyományos, elsősorban elméleti megközelítése korlátozottan képes kezelni ezt a komplexitást. A frontális ismeretátadás és az izolált példákon alapuló oktatás nem ad megfelelő eszközt a tanulók kezébe ahhoz, hogy átlássák az ellátási láncokban zajló kölcsönhatásokat, visszacsatolásokat és nem várt következményeket. A szimulációalapú tanulás ezzel szemben lehetővé teszi, hogy a tanulók valós folyamatmodelleken keresztül, kísérletezve és reflektálva értsék meg az ellátási láncok működését.

Az ipari környezet egyre határozottabban adatvezérelt döntéshozatalt vár el az ellátási lánc szakembereitől. A beszerzési, termelési, raktározási és disztribúciós döntések ma már nagymennyiségű adat feldolgozására, modellezésére és összehasonlító elemzésére épülnek. E készségek fejlesztése hagyományos elméleti oktatási keretek között nehézkes, mivel az adatvezérelt gondolkodás nem pusztán technikai tudást, hanem döntési logikát, kritikai értelmezést és következményalapú szemléletet is igényel. A szimulációs környezet alkalmas arra, hogy a tanulók valós adatokkal dolgozva, döntési forgatókönyveket elemezzenek és azok hatásait értelmezzék.

A fenntarthatóság kérdése tovább növeli az ellátási láncok oktatásának komplexitását. A környezeti szempontok – különösen a CO_2-kibocsátás, az energiafelhasználás és az erőforrás-hatékonyság – nem ragadhatók meg kizárólag elméleti síkon. E tényezők hatásai gyakran csak rendszerszinten, különböző döntési alternatívák összehasonlításán keresztül válnak láthatóvá. A modellezés és szimuláció lehetőséget teremt arra, hogy a tanulók megértsék: egy-egy látszólag lokális döntés miként hat a teljes ellátási lánc környezeti és gazdasági teljesítményére.
A Digitális Ellátási Lánc Szimulációs Labor e kihívásokra válaszul jön létre, és olyan oktatási környezetet biztosít, amelyben az alkalmazott tudás fejlesztése és a társadalmi felelősségvállalás szervesen összekapcsolódik. A labor lehetőséget ad ipari partnerekkel közös, valós problémákon alapuló projektek megvalósítására, amelyek során a tanulók nem csupán technológiai és módszertani ismereteket szereznek, hanem közvetlen tapasztalatot gyűjtenek az ipari döntések

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következményeiről is. Ez a projektalapú együttműködés jelentősen növeli a tanulók munkaerőpiaci értékét és szakmai önbizalmát.

A szimulációs környezet további pedagógiai előnye, hogy támogatja a reflektív és rendszerben való gondolkodás fejlődését. A tanulók nem előre rögzített „helyes megoldásokat" tanulnak meg, hanem döntéseik következményeivel szembesülnek, ami elősegíti a kritikai gondolkodást és az etikai dimenziók felismerését. Ez különösen fontos a jövő ellátási lánc szakembereinek képzésében, akiknek nemcsak gazdasági hatékonysági, hanem társadalmi és környezeti felelősséget is viselniük kell döntéseikért.

A Digitális Ellátási Lánc Szimulációs Labor egyik központi célja olyan szakemberek képzése, akik képesek az adatvezérelt döntéshozatal alkalmazására, és e döntéseket felelősen, kritikai szemlélettel hozzák meg. A digitális technológiák elterjedésével az adatok önmagukban nem jelentenek értéket; az érték az adatok értelmezéséből, összevetéséből és a döntési alternatívák következményeinek felismeréséből születik. A labor küldetése, hogy ezt a gondolkodásmódot már a képzés során megalapozza, és a tanulókat felkészítse arra, hogy az adatokat ne pusztán technikai eszközként, hanem felelős döntéstámogató erőforrásként használják.

A labor küldetése túlmutat a szűken értelmezett szakmai képzésen, és hangsúlyosan kapcsolódik a közjó szolgálatához. Az oktatási és kutatási tevékenységek során a tanulók szembesülnek azzal, hogy az ellátási láncok működtetése nem csupán gazdasági hatékonysági kérdés, hanem társadalmi felelősséggel is jár. A döntések hatással vannak a környezetre, a munkavállalókra, a fogyasztókra és tágabb értelemben a közösségekre. A labor olyan tanulási teret biztosít, ahol ezek az összefüggések tudatosulnak, és ahol a társadalmi hatás vállalása az oktatás természetes részévé válik.

A Digitális Ellátási Lánc Szimulációs Labor küldetésének fontos eleme az ipari és társadalmi szereplőkkel való együttműködés. A valós problémákon alapuló projektek révén a tanulók megtapasztalják, hogy a tudás akkor válik igazán értékessé, amikor konkrét helyzetekben, együttműködésben és felelősségteljesen alkalmazzák. Ez a tapasztalat hozzájárul a szakmai identitás formálódásához, és erősíti a munkaerőpiaci beilleszkedéshez szükséges kompetenciákat.

Elmondható, hogy az ellátási láncok oktatása nem választható el a valós folyamatok modellezésétől, az adatvezérelt döntéshozataltól és a fenntarthatósági szempontok integrált kezelésétől. A Digitális Ellátási Lánc Szimulációs Labor olyan új pedagógiai teret hoz létre, amelyben a tudás nem önmagáért való ismerethalmazként jelenik meg, hanem értékteremtő, felelős cselekvéssé alakul át – összhangban a modern oktatás társadalmi küldetésével.

Elméleti háttér

A Digitális Ellátási Lánc Szimulációs Labor pedagógiai és szakmai megalapozása több, egymással szorosan összefüggő tudományos irányzatra épül. A szakirodalmi áttekintés célja annak bemutatása, hogy a szimulációalapú, adatvezérelt és fenntarthatóság-orientált oktatási környezet miként illeszkedik a modern oktatáselméleti és ellátási lánc menedzsment kutatások főbb megállapításaihoz.

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A tapasztalati tanulás elméleti alapjait Kolb klasszikus munkája fekteti le, amely szerint a tanulás nem lineáris ismeretátvitel, hanem ciklikus folyamat, amely a konkrét tapasztalatból, a reflektív megfigyelésből, az absztrakt fogalmi általánosításból és az aktív kísérletezésből áll. A szimulációs tanulási környezetek e tanulási ciklus mindegyik elemét egyszerre teszik jelenvalóvá, így különösen alkalmasak komplex rendszerek – például ellátási láncok – oktatására.[1]

A komplex rendszerek megértésének egyik kulcsfogalma a rendszerszemlélet. Senge tanuló szervezetekről szóló munkája hangsúlyozza, hogy a komplex problémák gyakran nem egyedi eseményekhez, hanem a rendszer struktúrájához, visszacsatolásaihoz és késleltetéseihez kötődnek. Az ellátási láncok esetében ez a szemlélet különösen fontos, mivel a lokális döntések globális következményekkel járhatnak.[2]

Sterman rendszer-dinamikai kutatásai ezt a megközelítést empirikus kísérletekkel is alátámasztják. A döntéshozók gyakran szisztematikusan félreértik a visszacsatolásokat és késleltetéseket, ami instabil készletszintekhez és hatékonyságvesztéshez vezet. A szimuláció ebben az értelemben nem csupán szemléltető eszköz, hanem a mentális modellek fejlesztésének és korrekciójának hatékony módszere.[3]

Az adatvezérelt döntéshozatal szerepe az ellátási lánc menedzsmentben az utóbbi évtizedben kiemelt kutatási területté vált. Waller és Fawcett rámutatnak arra, hogy a big data és a prediktív analitika alkalmazása alapvetően átalakítja az ellátási láncok tervezését és irányítását. E változás új kompetenciákat igényel, amelyek fejlesztése kizárólag elméleti oktatási keretek között nem biztosítható hatékonyan.[4]

A fenntarthatóság integrálása az ellátási láncok működésébe szintén széles körű szakirodalmi háttérrel rendelkezik. Seuring és Müller átfogó áttekintése szerint a fenntartható ellátási lánc menedzsment központi kérdése a gazdasági, környezeti és társadalmi célok közötti egyensúly megteremtése. Ezek a trade-offok gyakran csak modellezésen és forgatókönyv-alapú elemzésen keresztül érthetők meg.[5]

A fenntarthatósági kompetenciák oktatási dimenzióját Wiek és munkatársai rendszerezték, akik azonosították a rendszerszemléletet, az előretekintő gondolkodást és a stratégiai cselekvőképességet, mint kulcskompetenciákat. Ezek fejlesztése olyan tanulási környezetet igényel, amelyben a tanulók valós

[1] Kolb, D. A.: *Experiential learning: Experience as the source of learning and development*. Prentice-Hall, 1984.
[2] Senge, P. M.: *The fifth discipline: The art and practice of the learning organization*. Doubleday/Currency, 1990.
[3] Sterman, J. D.: *Modeling managerial behavior: Misperceptions of feedback in a dynamic decision making experiment*. Management Science, 1989/3. (35.), 321–339.; Sterman, J. D.: *Business dynamics: Systems thinking and modeling for a complex world*. Irwin/McGraw-Hill, 2000.
[4] Waller, M. A.–Fawcett, S. E.: *Data science, predictive analytics, and big data: A revolution that will transform supply chain design and management*. Journal of Business Logistics, 2013.
[5] Seuring, S.–Müller, M.: *From a literature review to a conceptual framework for sustainable supply chain management*. Journal of Cleaner Production, 2008/15. (16.), 1699–1710.

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problémákon dolgoznak, és döntéseik társadalmi következményeit is értelmezni tudják.[6]

A projektalapú tanulás pedagógiai megalapozását Thomas kutatási összegzése adja, amely szerint az akkor eredményes, ha a tanulási feladatok autentikusak, komplexek és hosszabb időn keresztül fenntartják a tanulók aktív bevonódását. A szimulációs labor projektalapú működése szorosan illeszkedik ehhez a modellhez, miközben ipari kontextusba ágyazott tanulási helyzeteket teremt.[7] A szakirodalom egyértelműen alátámasztja, hogy a Digitális Ellátási Lánc Szimulációs Labor irányzata olyan pedagógiai és szakmai innováció, amely képes integrálni a tapasztalati tanulást, a rendszerszemléletet, az adatvezérelt döntéshozatalt és a fenntarthatósági gondolkodást az ellátási láncok oktatásában.[8,9,10,11]

A labor architektúrája és infrastruktúrája

A Digitális Ellátási Lánc Szimulációs Labor architektúrája tudatosan olyan modern, modulárisfelépítésre épül, amely képes összekapcsolni a fizikai és digitális rendszerek világát. Az architektúra tervezésének alapelve a skálázhatóság, a nyitottság és az oktatási, kutatási, valamint ipari alkalmazhatóság egyidejű biztosítása. A labor nem egyetlen, statikus rendszerként értelmezhető, hanem egymással összekapcsolt technológiai és pedagógiai modulok dinamikus ökoszisztémájaként.

A fizikai infrastruktúra központi eleme az RTLS-alapú RFID zónás nyomonkövetési technológia. Ez a megoldás lehetővé teszi, hogy az ellátási láncban mozgó termékek, alapanyagok és eszközök helyzete és állapota valós időben legyen érzékelhető és rögzíthető. A zónás RFID rendszer különösen alkalmas oktatási célokra, mivel jól értelmezhető, vizuálisan is megjeleníthető adatokat szolgáltat a raktározási, gyártási és disztribúciós folyamatok elemzéséhez. A tanulók így nem csupán elméleti szinten találkoznak a nyomonkövetés fogalmával, hanem annak gyakorlati működését és korlátait is megtapasztalják.

A nyomonkövetési infrastruktúrát IoT-eszközök és szenzorok egészítik ki. A laborban alkalmazott XDK-alapú IoT eszközök képesek különböző környezeti és folyamat paraméterek – például hőmérséklet, páratartalom, rezgés vagy energiafelhasználás – mérésére. Ezek az adatok kulcsfontosságúak az ellátási lánc minőségi és fenntarthatósági aspektusainak elemzésében. A PLC-alapú szenzorok

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[6] Wiek, A., Withycombe, L.–Redman, C. L.: *Key competencies in sustainability: A reference framework for academic program development*. Sustainability Science, 2011/2. (6.), 203–218.
[7] Ua.
[8] Vö. Thomas, J. W.: A review of research on project-based learning. Autodesk Foundation, 2000.
[9] Andrási Gábor–Keresztes Éva Réka–Budai László: I*ntegrating online simulations in business education: A case study on developing decision-making skills*. INFORMÁCIÓS TÁRSADALOM: TÁRSADALOMTUDOMÁNYI FOLYÓIRAT 2025/2. (25.), 73–88.
[10] Juhász Tímea–Budai László–Varga Erika–Szira Zoltán: Hard Skills Required for Enterprise Resource Planning Systems: Empirical Research among Hungarian Business Students, TEM JOURNAL: TECHNOLOGY EDUCATION MANAGEMENT INFORMATICS 2025/3. (14.), 2184–2195., 12.
[11] Budai László–Sárközy Helga: *A BGE – Bosch Smart Shop Floor Logisztikai Szimulációs Labor*. In: Ország Adrienn–Baják Szabolcs (szerk.): *II. Csernyák László Konferencia közleményei*. Budapesti Gazdasági Egyetem, Bp., 2024. 105–114.

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bevonása ipari szintű adatgyűjtést tesz lehetővé, amely közelebb hozza a tanulók számára a valós ipari környezetet, és biztosítja az oktatás hitelességét.

A fizikai adatgyűjtési réteghez szorosan kapcsolódik a labor szoftveres architektúrája. A rendszer egyik alapköve a diszkrét esemény alapú szimulációt támogató Plant Simulation, amely alkalmas komplex ellátási lánc folyamatok modellezésére és optimalizálására. A szimulációs modellek a valós adatokkal összekapcsolva lehetőséget adnak különböző forgatókönyvek vizsgálatára, például kapacitásváltozások, készletszintek vagy szállítási útvonalak módosításának hatásaira.

Az üzleti és elemzési réteget olyan eszközök támogatják, mint a Power BI és az SAP. A Power BI segítségével a laborban keletkező adatok vizuálisan, interaktív módon elemezhetők, ami elősegíti az adatvezérelt döntéshozatal elsajátítását. Az SAP rendszer-integráció lehetővé teszi, hogy a tanulók a vállalati információs rendszerek logikáját, törzsadat-kezelését és folyamatait valósszimulációs környezetben ismerjék meg. Ez az integráció erős hidat képez az oktatás és a vállalati gyakorlat között.

Az analitikai és modellezési képességeket tovább bővíti az IBM SPSS Modeler Flow és a Python alkalmazásának lehetősége. Ezek az eszközök lehetőséget adnak prediktív modellek, optimalizációs algoritmusok és adatbányászati eljárások kipróbálására. A tanulók így nemcsak leíró statisztikákkal dolgoznak, hanem megismerkednek a fejlettebb elemzési módszerekkel is, amelyek az iparban egyre nagyobb szerepet kapnak.

A labor architektúrájának kiemelt eleme a digitális iker technológia alkalmazása. A fizikai folyamatok virtuális mása nemcsak képernyőn, hanem kiterjesztett és virtuális valóság (AR/VR) környezetekben is megjeleníthető. Ez a megközelítés új dimenziót nyit az oktatásban, mivel a tanulók térben és időben is vizualizálhatják az ellátási lánc folyamatait, és interaktív módon avatkozhatnak be azok működésébe.

A rendszer erősen támogatja a mesterséges intelligencián és generatív AI-n alapuló fejlesztéseket. A labor architektúrája lehetővé teszi AI-alapú folyamatautomatizálási megoldások, döntéstámogató rendszerek és prediktív modellek integrálását. Ez különösen fontos a jövő szakembereinek képzésében, akiknek képesnek kell lenniük az AI eszközök felelős és kritikus alkalmazására az ellátási lánc menedzsment területén.

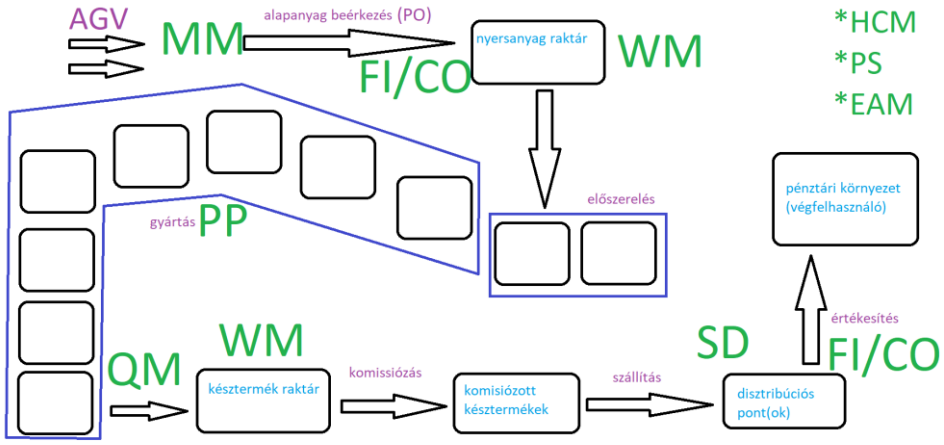
A Digitális Ellátási Lánc Szimulációs Labor nyitott architektúrája biztosítja, hogy ipari partnerek és tanulói projektek egyaránt integrálhatók legyenek a rendszerbe. A moduláris felépítés lehetővé teszi új szenzorok, szoftverek vagy adatforrások rugalmas csatlakoztatását, ami elősegíti a labor folyamatos fejlődését. Ez a nyitottság nemcsak technológiai, hanem pedagógiai előnyt is jelent, mivel a tanulók valós, folyamatosan változó rendszerekben szerezhetnek tapasztalatot.

A labor architektúrája olyan komplex, mégis átlátható struktúrát alkot, amely integrálja a fizikai adatgyűjtést, a digitális modellezést és az adatvezérelt elemzést. Ez az architektúra nem csupán technológiai infrastruktúra, hanem egy olyan tanulási keretrendszer, amely támogatja az alkalmazott tudásfejlődését, az innovációt és a fenntartható gondolkodást az ellátási láncok oktatásában.

DOI: 10.55072/DN.2026.1.5

A labor folyamatszimulációs modellje

A Digitális Ellátási Lánc Szimulációs Labor folyamatszimulációs modellje egy olyan integrált, végponttól végpontig felépített ellátási láncot jelenít meg, amelyben a fizikai anyagáramlás, az információs folyamatok és a pénzügyi elszámolások egységes rendszerként működnek. A modell célja, hogy a tanulók az ellátási lánc működését ne elkülönült funkcionális egységek sorozataként, hanem egymással kölcsönhatásban álló alrendszerek összességeként értelmezzék, felismerve a döntések rövid- és hosszú távú következményeit.



A labor folyamatszimulációs modellje (1. ábra)
Forrás: A szerzők saját szerkesztése

A folyamat a bejövő logisztikával és a beszerzési tevékenységekkel indul. (1. ábra) Az alapanyagok beérkezése a beszerzési döntésekhez kapcsolódva, Purchase Order (PO) alapú logika mentén történik, amelyet a fizikai térben automatizált anyagmozgatási megoldások, például AGV-k (Automated Guided Vehicles) támogatnak. Ez a kettősség – a fizikai mozgás és az információs rendszerben megjelenő tranzakció – lehetővé teszi, hogy a tanulók megértsék a Materials Management (MM) modul szerepét az ellátási lánc kezdeti szakaszában, valamint azt, hogy egy beszerzési döntés miként generál azonnali pénzügyi hatásokat a pénzügyi és kontrolling (FI/CO) rendszerekben.

A beérkező alapanyagok a nyersanyagraktárba kerülnek, ahol a Warehouse Management (WM) funkciók biztosítják a készletek strukturált kezelését. A raktári folyamatok során a lokációk kezelése, a készletszintek folyamatos monitorozása, valamint a FIFO és LIFO elvek alkalmazása egyaránt megjelenik. A zónás raktári logika lehetővé teszi, hogy a tanulók valós idejű adatok alapján vizsgálják a tárolási döntések hatását az átfutási időkre, a készlettartási költségekre és a kiszolgálási szintre. A raktár ebben a modellben nem passzív tárolóegységként, hanem aktív döntési térként jelenik meg.

DOI: 10.55072/DN.2026.1.5

A nyersanyagraktárból az anyagáramlás az előszerelési és gyártási szakasz felé halad. Az előszerelés során a raktárból történő anyagkivételezés, a gyártási rendeléshez kapcsolódó előkészítés és az anyagok időzített rendelkezésre bocsátása zajlik. A gyártási folyamat a Production Planning (PP) modul logikájára épül, amely magában foglalja a gyártási rendelések kezelését, a műveleti sorrendeket, valamint az erőforrások és kapacitások tervezését. A gyártás folyamata diszkrét eseményalapú módon modellezhető, ami lehetőséget ad a kapacitáskihasználás, az átfutási idők és a szűk keresztmetszetek elemzésére.

A gyártást követően a minőségbiztosítási tevékenységek külön, de szorosan integrált alrendszerként jelennek meg. A Quality Management (QM) funkciók lehetővé teszik a minőségellenőrzési pontok beépítését, a selejt és az utómunkálatok kezelését, valamint a visszacsatolások érvényesítését a termelési folyamatok felé. A minőségügyi döntések hatása nemcsak a termelési teljesítményben, hanem a készletszintek alakulásában és a költségstruktúrában is megjelenik, ami különösen alkalmas a fenntarthatósági és erőforrás-hatékonysági szempontok oktatására.

A megfelelő minősítésen átesett termékek a késztermékraktárba kerülnek, ahol ismét a Warehouse Management (WM) funkciói kerülnek előtérbe. A késztermékraktárban a lokációkhoz rendelt késztermékek kezelése, a rendelésvezérelt komissiózás és a kiszállítás előkészítése zajlik. A komissiózási folyamat során a tanulók megismerhetik, miként kapcsolódnak össze a raktári műveletek és az értékesítési igények, valamint hogyan befolyásolják a készletszintek és a zónás elrendezések a kiszolgálás hatékonyságát.

Az outbound logisztikai szakasz a Sales and Distribution (SD) modulhoz kapcsolódik, ahol a kiszállítás, a disztribúciós pontok kezelése és az értékesítési folyamatok kerülnek előtérbe. A több disztribúciós ponttal működő modell hálózati szemléletet igényel, amely lehetőséget ad a szállítási útvonalak, a költségek és a szolgáltatási szintek összehasonlító elemzésére. E szakasz különösen alkalmas a környezeti hatások – például a szállításhoz kapcsolódó CO_2-kibocsátás – vizsgálatára is.

A folyamat záró eleme az értékesítés pénzügyi lezárása, amely során a fizikai termékmozgás pénzügyi teljesítménnyé alakul át. A FI/CO rendszerek biztosítják a bevételek, költségek és eredmények elszámolását, valamint lehetőséget adnak a döntések gazdasági következményeinek értékelésére. A tanulók így átfogó képet kapnak arról, hogy az ellátási lánc egyes pontjain meghozott döntések miként jelennek meg a vállalat pénzügyi mutatóiban.

A folyamatszimulációs modell kiegészül további vállalati funkciókkal is. A humánerőforrás-gazdálkodás (HCM) révén vizsgálható a munkaerő szerepe és korlátai, a projektalapú működés (PS) lehetőséget ad komplex, tanulói projektek megvalósítására, míg az eszközgazdálkodás és karbantartás (EAM) integrálása az állásidők és karbantartási döntések hatását teszi elemezhetővé. Ezek az elemek tovább erősítik a modell valósághűségét és oktatási értékét.

Összességében a Digitális Ellátási Lánc Szimulációs Labor folyamatszimulációs modellje olyan komplex, mégis strukturált rendszert alkot, amelyben a WM lokációk és készletszintek kezelése, a FIFO/LIFO és zónás raktári logika, a gyártási és minőségbiztosítási folyamatok, valamint az értékesítési és pénzügyi elszámolások egységes tanulási keretbe rendeződnek. Ez a modell hatékonyan

DOI: 10.55072/DN.2026.1.5

támogatja a rendszerszemlélet, az adatvezérelt döntéshozatal és a felelős szakmai gondolkodás fejlesztését, miközben valós ipari működést tükröző környezetet biztosít a tanulók számára.

Oktatási gyakorlat, társadalmi hasznosság és tapasztalatok

A Digitális Ellátási Lánc Szimulációs Labor tanulási folyamatai alapvetően eltérnek a hagyományos, frontális oktatási formáktól. A laborban a tanulás nem elsősorban ismeretátadásként, hanem cselekvésen, kísérletezésen és reflexión alapuló folyamatként valósul meg. A tanulók valós ellátási lánc folyamatokat modellezneknek, adatokat gyűjtenek, majd döntési alternatívákat alakítanak ki, amelyek következményei a szimulációs környezetben azonnal értelmezhetővé válnak. Ez a tanulási forma lehetővé teszi, hogy az elméleti fogalmak – például készletgazdálkodás, kapacitástervezés vagy szolgáltatási szint – konkrét, mérhető jelenségekké alakuljanak. A laborban zajló tanulás iteratív jellegű: egy-egy döntési ciklus során a tanulók megfigyelik a rendszer viselkedését, értelmezik az eredményeket, majd módosítják feltételezéseiket és új forgatókönyveket próbálnak ki. Ez a folyamat erősíti a reflektív tanulást, és elősegíti a rendszerszemlélet kialakulását, mivel a tanulók megtapasztalják, hogy az ellátási lánc egyes elemeiben hozott döntések hogyan hatnak a teljes rendszer működésére. A tanulási folyamat így nem egyetlen „helyes megoldás” megtalálására irányul, hanem a döntések következményeinek megértésére és értelmezésére.

A laborban zajló tanulási folyamatok hatása a tanulói kompetenciafejlődésben is megjelenik. Az észlelt kompetenciafejlődés elsősorban az adatvezérelt gondolkodás, a problémamegoldás és a rendszerszintű értelmezés területén figyelhető meg. A tanulók nemcsak adatokat használnak, hanem megtanulják azok minőségét, relevanciáját és korlátait is értékelni, ami alapvető feltétele a felelős döntéshozatalnak.

A szimulációs környezetben végzett munka hozzájárul a szakmai önbizalom erősödéséhez is. A tanulók valósághű helyzetekben próbálhatják ki tudásukat, kockázatmentes környezetben hibázhatnak, majd tanulhatnak a hibákból. Ez a tapasztalat különösen fontos a munkaerőpiaci felkészülés szempontjából, mivel a tanulók képesek összekapcsolni az elméleti ismereteket a gyakorlati alkalmazással. Az észlelt kompetenciafejlődés így nemcsak technikai készségekben, hanem döntési magabiztosságban és szakmai identitásban is megmutatkozik.

A Digitális Ellátási Lánc Szimulációs Labor tanulási környezetében a fenntarthatóság nem különálló témaként jelenik meg, hanem az ellátási lánc működésének integrált részeként. A tanulók különböző döntési forgatókönyvek segítségével vizsgálhatják a környezeti hatásokat, például a CO_2-kibocsátás, az energiafelhasználás vagy az erőforrás-hatékonyság alakulását. A szimuláció lehetőséget ad arra, hogy ezek a hatások számszerűsíthetők és összehasonlíthatók legyenek, ami elősegíti a fenntarthatósági szempontok tudatos beépülését a szakmai gondolkodásba.

A társadalmi aspektusok szintén hangsúlyos szerepet kapnak a laborban. A tanulók szembesülnek azzal, hogy az ellátási lánc működtetése nem csupán gazdasági kérdés, hanem társadalmi felelősséggel is jár. A döntések hatással vannak a munkavállalókra, a beszállítókra, a fogyasztókra és a tágabb közösségekre. A

DOI: 10.55072/DN.2026.1.5

laborban alkalmazott forgatókönyvek lehetőséget adnak e hatások értelmezésére, és hozzájárulnak ahhoz, hogy a tanulók a szakmai döntéseket etikai és társadalmi dimenzióikban is vizsgálják.

A labor működésének egyik meghatározó eleme az ipari és közösségi szereplőkkel való együttműködés. A valós problémákon alapuló projektek lehetővé teszik, hogy a tanulók olyan kihívásokkal dolgozzanak, amelyek közvetlenül kapcsolódnak a vállalati gyakorlatokhoz. Ezek az együttműködések erősítik az oktatás és az ipar közötti kapcsolatot, és hozzájárulnak ahhoz, hogy a tanulási folyamat releváns maradjon a munkaerőpiac számára.

A közösségi együttműködések – például fenntarthatósági kezdeményezésekhez vagy helyi projektekhez való kapcsolódás – tovább tágítják a labor hatókörét. A tanulók így nemcsak vállalati, hanem társadalmi kontextusban is értelmezhetik az ellátási láncok működését, ami erősíti a közjó iránti elköteleződést és a felelős szakmai szerepfelfogást.

A Digitális Ellátási Lánc Szimulációs Labor működése ugyanakkor nem mentes a korlátoktól és kihívásoktól. A komplex technológiai környezet magas szintű infrastruktúrát és folyamatos karbantartást igényel, ami erőforrás- és költségigényes. Emellett a tanulók előzetes tudásszintjének heterogenitása kihívást jelenthet a tanulási folyamat tervezése során, mivel a túl gyors vagy túl lassú haladás egyaránt csökkentheti a tanulási hatékonyságot.

Pedagógiai szempontból kihívást jelent a tanulási eredmények mérhetősége is. Bár az észlelt kompetenciafejlődés egyértelműen megjelenik, annak objektív, hosszú távú hatásait további empirikus vizsgálatokkal szükséges alátámasztani. Ezek a korlátok azonban nem gyengítik a labor koncepcióját, hanem inkább kijelölik a jövőbeli fejlesztési és kutatási irányokat.

A laborban történő tevékenységet minden tanulói csoport esetében egy 26 órás SAP ERP alapozó kurzus előzi meg, mely segíti a tanulókat abban, hogy folyamatokban gondolkozzanak.

A következőkben bemutatott elemzéseket egy 100 fős mintára végeztük el. A vizsgálat közvetlen célja annak feltárása, hogy a résztvevők mennyire voltak elégedettek a képzés tartalmával, módszertanával és szervezésével, milyen mértékben érzik alkalmazhatónak a tanultakat, illetve mely fejlesztési pontok azonosíthatók a következő képzési ciklusok tervezéséhez.

A kérdőív 6 dimenzió mentén mérte a képzést:

- általános elégedettség,
- tartalom és tananyag,
- oktatói munka és módszertan,
- gyakorlati munka és rendszerhasználat,
- szervezés és technikai háttér,
- javaslatok és nyitott visszajelzések.

A zárt kérdések többsége 5 fokú Likert-skálán (1 = egyáltalán nem, 5 = teljes mértékben) került felvételre; a „tempó” item ötfokú kategóriaskála formájában (túl lassú…túl gyors) szerepelt. A nyitott kérdések tartalomelemzése során tematikus kódolást alkalmaztunk (induktív kódrendszer), majd a kódok gyakoriságát és tipikus megfogalmazásait összegző módon mutatjuk be.

DOI: 10.55072/DN.2026.1.5

A minta a felnőttképzéses célcsoport heterogenitását tükrözi. A résztvevők 78%-a rendelkezett legalább középfokú, 22%-a felsőfokú végzettséggel; 64% aktív foglalkoztatottként, 18% karrierváltóként, 18% pedig álláskeresőként vett részt a képzésben. SAP-előismeret tekintetében 75% kezdő, 15% alapszintű, 10% pedig középhaladó önbesorolást adott. A heterogén előtudás indokolja a tempó- és gyakorlati időigényre vonatkozó itemek külön elemzését.

A kvantitatív értékelés során leíró statisztikákat (átlag, medián, szórás, interkvartilis terjedelem), 95%-os konfidenciaintervallumokat (CI) az átlagokra, belső megbízhatósági mutatót a több itemből álló skálákra (Cronbach-alfa), dimenziók közötti korrelációkat (Spearman ρ), valamint egyszerű magyarázó modellt (lineáris regresszió) alkalmaztunk az összelégedettség predikciójára. A nyitott kérdések esetében kvalitatív tartalomelemzést végeztünk: a válaszokból kódokat és témákat képeztünk, majd a témák előfordulási arányát becsültük.

Az összesített elégedettség (egyitemes, 1–5 skála) átlaga 4,58 (SD = 0,50; medián = 5). A 95%-os konfidenciaintervallum az átlagra: 4,48–4,68, ami statisztikailag stabil, magas elégedettségi szintet jelez. Az elvárások teljesülésének átlaga 4,49 (SD = 0,54; 95% CI: 4,38–4,60). A két mutató közötti Spearman-korreláció ρ = 0,74, amely erős együttjárást jelez: ahol az elvárások teljesülése magas, ott az általános elégedettség is magasabb.

A tempó megítélése kategóriaskálán történt. A válaszadók 66%-a „pont megfelelőnek”, 24%-a „kissé gyorsnak”, 6%-a „túl gyorsnak”, 3%-a „kissé lassúnak”, 1%-a „túl lassúnak” értékelte a haladást. Az eloszlás arra utal, hogy a képzés intenzív karaktere a többség számára illeszkedett, ugyanakkor a gyorsnak ítélő csoport (összesen 30%) számottevő. E csoportot döntően a SAP-kezdők adják (a gyorsnak/túl gyorsnak jelölők 73%-a kezdő önbesorolású), ami módszertani szempontból differenciált tanulási útvonal, illetve opcionális előkészítő modul indítását támasztja alá (navigáció, tranzakciológika, alapfogalmak).

A tartalomdimenzió három Likert-itemből képzett skála (érthetőség, gyakorlati hasznosság, relevancia). A skála belső megbízhatósága megfelelő (Cronbach-alfa = 0,84), ami indokolja az összpontszám használatát. A skálaátlag 4,67 (SD = 0,42; 95% CI: 4,59–4,75). Item szinten az érthetőség M = 4,66 (SD = 0,47), a gyakorlati hasznosság M = 4,79 (SD = 0,39), a relevancia M = 4,57 (SD = 0,55). A gyakorlati hasznosság kiemelkedő értéke konzisztens a felnőttképzési elvárásokkal: a résztvevők explicit módon preferálják a munkahelyi alkalmazhatóságot és a gyakorlati feladatokra épülő tanulást.

Az oktatói dimenzió négy itemből áll (felkészültség, érthetőség, támogatás, légkör), a skála megbízhatósága magas (Cronbach-alfa = 0,90). A dimenzióátlag 4,78 (SD = 0,36; 95% CI: 4,71–4,85). Item szinten a felkészültség M = 4,90 (SD = 0,30) a legmagasabb érték, amely a kurzus egyik kritikus sikerfaktora. Az oktatói dimenzió erős korrelációt mutat az összelégedettséggel (ρ = 0,69), jelezve, hogy a felnőttképzésben a tanári facilitáció, a kérdések kezelése és a gyakorlati problémamegoldás módja meghatározóan befolyásolja a résztvevői élményt.

Az SAP gyakorlati környezet használhatóságát mérő item átlaga 4,29 (SD = 0,60; 95% CI: 4,17–4,41). A gyakorlati idő elegendőségére adott válaszok alapján 60% „igen”, 36% „részben”, 4% „nem” kategóriát jelölt. A „részben” válaszok aránya tipikusan arra utal, hogy a résztvevők egy részének a rendszerben történő önálló navigáció és a lépések rögzülése több gyakorlást igényel. Az észlelt

DOI: 10.55072/DN.2026.1.5

kompetenciaérzet (1–5 skála) az MM alapfeladatok esetében M = 4,20 (SD = 0,58), az SD alapfeladatoknál M = 4,10 (SD = 0,61). A két kompetenciaitem közötti korreláció ρ = 0,62, ami közepesen erős kapcsolatot jelez: akik magabiztosabbak az egyik modulban, jellemzően a másikban is.

A szervezési dimenzió (időzítés, technikai feltételek) átlagai 4,41 (SD = 0,55) és 4,33 (SD = 0,62) voltak. A képzés ajánlási hajlandósága 3 kategóriában szerepelt: 88% „igen", 10% „talán", 2% „nem". A nemleges válaszok nyitott indoklásában túlnyomórészt a rövid időtartam és a gyors tempó jelent meg, nem pedig a szakmai minőség kritikája.

A fő dimenziók közötti Spearman-korrelációk alapján az összelégedettséggel legerősebben az oktatói dimenzió (ρ = 0,69) és a tartalomdimenzió (ρ = 0,66) függ össze, míg a szervezés (ρ = 0,44) közepes, a rendszerhasználhatóság (ρ = 0,38) mérsékeltebb kapcsolatot mutat. Az összelégedettség predikciójára illesztett egyszerű lineáris regressziós modell (magyarázó változók: tartalom, oktató, szervezés, rendszerhasználhatóság) alapján a magyarázott variancia R^2 = 0,58, ami oktatásértékelési kontextusban erősnek tekinthető. A standardizált hatások (β) azt jelzik, hogy az oktatói dimenzió (β ≈ 0,40) és a tartalom (β ≈ 0,35) a legerősebb prediktorok; a szervezés és a rendszerhasználhatóság kisebb, de szignifikáns hozzájárulást ad (β ≈ 0,15–0,20).

A nyitott válaszok tematikus kódolása alapján a leggyakrabban megjelenő pozitív témák: „gyakorlatközpontú tanulás" (a válaszok ~48%-ában), „üzleti folyamatok átlátása" (~35%), „oktatói támogatás, kérdezhetőség" (~33%), „azonnali munkahelyi alkalmazhatóság" (~29%). A fejlesztési javaslatok között dominált: „több gyakorlási idő / több feladat" (~41%), „lassabb, differenciáltabb tempó kezdőknek" (~28%), „integrált MM–SD végponttól végpontig folyamatok" (megrendeléstől számláig, beszerzéstől raktározásig) (~22%), „haladó modul / extra esetek (visszáru, árkondíciók, jóváírás, riportok)" (~18%). Ezek a témák jól illeszkednek a kvantitatív eredményekhez: a magas elégedettség mellett a gyakorlati elmélyítés iránti igény a legfőbb fejlesztési irány.

A 100 fős tanulói visszajelzésre épülő statisztikai elemzés alapján a 26 órás SAP MM–SD felnőttképzés magas minőségűnek tekinthető (1. táblázat). A leíró statisztikák magas átlagokat és alacsony szórásokat mutatnak, a skálák megbízhatósága megfelelő (Cronbach-alfa ≥ 0,84), és a dimenziók közötti összefüggések logikusan rendeződnek. A magyarázó modell szerint az összelégedettség fő determinánsai az oktatói dimenzió és a tananyag gyakorlati relevanciája.

A fejlesztési javaslatok három szinten fogalmazhatók meg.

- Tanulásszervezési szint: a kezdők számára előkészítő rövid modul, opcionális „lassított" gyakorlósáv, valamint strukturált gyakorlócsomag (lépéslista + önellenőrző kérdések).
- Tartalmi szint: integrált MM–SD end-to-end esettanulmányok beépítése, amelyek a modulok közötti adatkapcsolatokat láthatóvá teszik.
- Programstratégiai szint: haladó (Level 2) képzés indítása a kompetenciaérzet továbbfejlesztésére, különös tekintettel a tipikus üzleti kivételekre és a riportolási alapelemekre. E javaslatok várhatóan csökkentik a tempó miatti terhelésérzetet, miközben megtartják a képzés gyakorlatorientált erősségeit.

DOI: 10.55072/DN.2026.1.5

Dimenzió / item	Átlag	Szórás	Medián	95% CI
Összelégedettség (1–5)	4,58	0,50	5	4,48–4,68
Elvárások teljesülése (1–5)	4,49	0,54	5	4,38–4,60
Tartalom skála (3 item)	4,67	0,42	5	4,59–4,75
Oktató skála (4 item)	4,78	0,36	5	4,71–4,85
SAP környezet használhatósága	4,29	0,60	4	4,17–4,41
MM kompetenciaérzet	4,20	0,58	4	4,09–4,31
SD kompetenciaérzet	4,10	0,61	4	3,98–4,22
Ütemezés (1–5)	4,41	0,55	5	4,30–4,52
Technikai háttér (1–5)	4,33	0,62	4	4,21–4,45

Fontosabb statisztikai mutatók összefoglaló táblázata (1. táblázat)
Forrás: A szerzők saját szerkesztése

Összegzés és jövőkép

A tanulmány bemutatta, hogy a Digitális Ellátási Lánc Szimulációs Labor miként járul hozzá az ellátási láncok oktatásának megújításához, valamint a szakmai és társadalmi felelősségvállalás erősítéséhez a digitális korszak kihívásai közepette. Az elemzés rámutatott arra, hogy a labor nem pusztán technológiai infrastruktúra, hanem olyan komplex tanulási környezet, amely képes összekapcsolni az alkalmazott tudás fejlesztését, az adatvezérelt döntéshozatalt és a fenntarthatósági szemléletet. A labor működése érdemben hozzájárul a felelős és fenntartható gondolkodás megerősítéséhez, amely a társadalom hosszú távú jóléte szempontjából alapvető jelentőségű. A szimulációs és modellezési környezet lehetővé teszi, hogy a tanulók ne elszigetelt döntéseket hozzanak, hanem felismerjék azok rendszerszintű következményeit. Ez a megközelítés elősegíti annak megértését, hogy az ellátási láncok működtetése egyszerre gazdasági, környezeti és társadalmi kérdés, és a szakmai döntések felelőssége túlmutat az egyéni vagy szervezeti szinten. A bemutatott labor olyan szakemberek képzését támogatja, akik képesek átlátni döntéseik komplex hatásait. A gazdasági eredményesség, a környezeti terhelés és a társadalmi következmények együttes értelmezése a laborban nem elméleti célkitűzésként, hanem gyakorlati tapasztalatként jelenik meg. Ez a szemlélet hozzájárul ahhoz, hogy a jövő ellátási lánc szakemberei tudatosan és kritikusan viszonyuljanak saját döntési szerepükhöz, valamint a technológiai eszközök alkalmazásához. A labor jelentős mértékben erősíti a digitális kompetenciákat, amelyek a munkaerőpiaci alkalmazkodóképesség és az innovációs képesség kulcstényezői. Az adatelemzés, a szimuláció, a digitális iker technológiák és az AI-alapú megoldások integrált használata olyan készségeket fejleszt, amelyek túlmutatnak egy-egy konkrét szoftver vagy módszer ismeretén. A tanulók megtanulják értelmezni az adatokat, felismerni azok korlátait, és felelős döntéseket hozni egy folyamatosan változó digitális környezetben.

DOI: 10.55072/DN.2026.1.5

A tanulmány eredményei arra is rávilágítanak, hogy a Digitális Ellátási Lánc Szimulációs Labor hozzájárul egy tudásalapú, értékteremtő gazdaság formálásához, amelyben a technológiai haladás emberközpontú felelősségvállalással párosul. A laborban megvalósuló oktatási és kutatási tevékenységek elősegítik, hogy a technológia ne öncélú eszközzé váljon, hanem a társadalmi jólétet és a fenntartható fejlődést szolgálja.

A jövőképet tekintve a labor regionális tudás- és innovációs központként értelmezhető, amely képes összekapcsolni az oktatást, a kutatást és az ipari gyakorlatot. A nyitott architektúra és az együttműködésre épülő működés lehetőséget teremt arra, hogy a labor a térség meghatározó szakmai műhelyévé váljon, támogatva a vállalatok, az oktatási intézmények és a közösségek közös tanulását és fejlődését.

A cél az, hogy a kutatás, az oktatás és az ipar együtt formálja a fenntarthatósági átmenet digitális alapjait, és olyan szakmai kultúrát hozzon létre, amelyben a tudás, a felelősség és az innováció egymást erősítve járul hozzá a társadalom hosszú távú jólétéhez.

Irodalom

Andrási Gábor–Keresztes Éva Réka–Budai László: I*ntegrating online simulations in business education: A case study on developing decision-making skills*. INFORMÁCIÓS TÁRSADALOM: TÁRSADALOMTUDOMÁNYI FOLYÓIRAT 2025/2. (25.), 73–88.

Budai László–Sárközy Helga: *A BGE – Bosch Smart Shop Floor Logisztikai Szimulációs Labor*. In: Ország Adrienn–Baják Szabolcs (szerk.): *II. Csernyák László Konferencia közleményei*. Budapesti Gazdasági Egyetem, Bp., 2024. 105–114.

Juhász Tímea–Budai László–Varga Erika–Szira Zoltán: Hard Skills Required for Enterprise Resource Planning Systems: Empirical Research among Hungarian Business Students, TEM JOURNAL: TECHNOLOGY EDUCATION MANAGEMENT INFORMATICS 2025/3. (14.), 2184–2195.

Kolb, D. A.: *Experiential learning: Experience as the source of learning and development*. Prentice-Hall, 1984.

Senge, P. M.: *The fifth discipline: The art and practice of the learning organization*. Doubleday/Currency, 1990.

Seuring, S.–Müller, M.: *From a literature review to a conceptual framework for sustainable supply chain management*. Journal of Cleaner Production, 2008/15. (16.), 1699–1710. DOI: 10.1016/j.jclepro.2008.04.020

Sterman, J. D.: *Modeling managerial behavior: Misperceptions of feedback in a dynamic decision making experiment*. Management Science, 1989/3. 321–339. DOI: 10.1287/mnsc.35.3.321

Sterman, J. D.: *Business dynamics: Systems thinking and modeling for a complex world*. Irwin/McGraw-Hill, 2000.

Thomas, J. W.: *A review of research on project-based learning*. Autodesk Foundation, 2000.

DOI: 10.55072/DN.2026.1.5

Waller, M. A.–Fawcett, S. E.: *Data science, predictive analytics, and big data: A revolution that will transform supply chain design and management*. Journal of Business Logistics, 2013. DOI: 10.1111/jbl.12010

Wiek, A., Withycombe, L.–Redman, C. L.: *Key competencies in sustainability: A reference framework for academic program development*. Sustainability Science, 2011/2. (6.), 203–218. DOI: 10.1007/s11625-011-0132-6

Abstract

FROM DATA TO PRODUCT, FROM KNOWLEDGE TO VALUE: THE DIGITAL SUPPLY CHAIN SIMULATION LAB AS A NEW SPACE FOR APPLIED KNOWLEDGE AND SOCIAL RESPONSIBILITY

The centuries-old tradition of educational institutions is based on the transfer of knowledge, the service of the common good and social responsibility. In the 21st century, this mission is fulfilled in a new form: through the integration of digital competences, industrial innovation and a sustainability approach. In the spirit of this approach, the Digital Supply Chain Simulation Lab will be established, which is located at the intersection of education, research, industry and social utility.

The aim of the lab is for students, teachers and researchers to learn about the connections between data-driven decision-making, environmental responsibility and resource efficiency by modelling real industrial and logistical processes.

The teaching and research activities carried out in the lab are based on the sharing of applied knowledge and the support of social value creation. Through project-oriented learning and joint experimentation with industry partners, students not only develop their technological skills, but also experience the social dimension of sustainable thinking.

The lecture will show how the lab's philosophy fits into the mission of modern education: to serve the development of society through the practical application of knowledge, cooperation and innovation. The Digital Supply Chain Lab is not just a technological investment, but the embodiment of a new pedagogical paradigm – where knowledge, responsibility and action appear in unity.

Keywords: knowledge transfer, social responsibility, digital innovation, sustainability, education, simulation, industrial cooperation

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Bartal Orsolya

A DIGITÁLIS TŐKE MEGOSZLÁSÁNAK TÁRSADALMI MINTÁZATAI

Bevezetés (Helyzetelemzés)

A 21. században jelentősen felgyorsult a technológia fejlődése. Nagy sebességgel „tolakodnak" be a technológia vívmányai a hétköznapjainkba, akár készen állunk rá, akár nem. A társadalmi-gazdasági színterek minden szegletében, a hétköznapok megannyi szegmensében jelen van a digitalizáció, és a mesterséges intelligencia (MI).

A digitális tőke jelentősége felértékelődik a társadalmi rétegek közötti különbségek vizsgálatakor.[1] Nem csupán a hagyományos tőke fogalmakat szükséges figyelembe vennünk, hanem a digitalizációs faktort is. A társadalmi egyenlőtlenségeket nagyban meghatározza a digitális tőke, a digitális készségek és képességek, az eszközökhöz való hozzáférés megoszlása, s mindez az oktatás színterén is érzékelhető hatást gyakorol. A digitális erőforrások nem egyenlően oszlanak el (sem térben, sem a társadalmi csoportok között, ami hatással van az oktatás minőségére és esélyegyenlőségre. Vidéki területeken alacsonyabb digitális infrastruktúra és kompetenciák súlyosbítják az oktatási kihívásokat. A járvány idején bevezetett digitális munkarend mélyítette a különbségeket az eszköz- és internethozzáférés hiánya miatt. Jelen tanulmány a hazai és a külföldi szakirodalmi háttér egy részének bemutatására vállalkozik a teljesség igénye nélkül a mobileszközök korlátozásának hatásait és a digitális tőkemegoszlás oktatásra gyakorolt hatásait vizsgálva. A figyelmet kívánja felhívni a jelenség fontosságára, a módszerek újragondolására.

Szabályok, normák, értékek – Digitális tőkemegoszlás (Szakirodalmi kitekintés)

A digitális tőke megoszlás (digital capital distribution) egy olyan fogalom, amely az információs társadalom és a digitális egyenlőtlenségek vonatkozásában jelenik meg. Lényege, hogy a digitális eszközökhöz, készségekhez és lehetőségekhez való hozzáférés nem egyenletesen oszlik meg a társadalom különböző csoportjai között. Ez a megoszlás több dimenzióban értelmezhető:

1. Digitális eszközök és infrastruktúra (ki, milyen minőségű eszközzel és internetkapcsolattal rendelkezik) Például a városi és a vidéki területek között jelentős különbségek lehetnek e tekintetben.
2. Digitális készségek és kompetenciák: nem elég csupán birtokolni az eszközt, tudni kell azokat használni is. Tudatos felhasználóvá válás támogatása kulcskérdés ennek vonatkozásában. Ide tartozik az alapvető technikai tudás, információkeresés, online biztonság, valamint a

[1] Vö. BOURDIEU, Pierre: *A társadalmi egyenlőtlenségek újratermelődése*. General Press, Bp., 2008. (A továbbiakban. BOURDIEU, 2008.)

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kritikai gondolkodás, amelyek számottevő „puha készségek”[2] a 21. századi munkaerő piaci elvárások listáján.

3. Hozzáférés a digitális tartalmakhoz és szolgáltatásokhoz: Oktatás, munka, egészségügy, állami szolgáltatások egyre inkább online térben érhetők el. Akinek nincs megfelelő hozzáférése, az hátrányba kerül az élet és hétköznapi ügyintézés számos területén.
4. Társadalmi és gazdasági tőke kapcsolata: A digitális tőke szorosan összefügg az anyagi helyzettel, az iskolázottsággal s az életkorral. Az idősebb korosztály és az alacsony jövedelműek gyakran kevesebb digitális tőkével rendelkeznek.

A digitális tőkemegoszlás hatással van az oktatásra, a munkaerőpiacra és a társadalmi egyenlőtlenségekre. Az oktatás színterén az online tanulás lehetőségei nem mindenki számára adottak és egységesen elérhetőek. A digitális tőke hiánya akadályozza a tanulók részvételét és növeli az oktatási egyenlőtlenségeket. Ahogyan az fentebb említésre került, a pandémiás időszak még inkább mélyítette ezt a szakadékot, felerősítette a társadalmi egyenlőtlenségeket. A munkaerőpiacon a digitális készségek hiánya korlátozza az elhelyezkedést, ezáltal szintén akadályt képes gördíteni egyes hátrányosabb helyzetben lévő társadalmi rétegek elé. Hátrányból indulnak mindazok, akiknek a digitális kompetenciáik alacsonyabb szinten vannak, vagy nem is léteznek, olyan társadalmi réteghez tartozó embertársaikkal szemben, akik fejlett digitális kompetenciákkal rendelkeznek. A digitális tőkemegoszlás a társadalmi egyenlőségre is befolyással van. Mélyítheti a szakadékot a különböző társadalmi rétegek között.[3]

A társadalmi egyenlőtlenségek és erőforrások megoszlásának megértésében kulcsfontosságú Pierre Bourdieu francia szociológus, antropológus és filozófus társadalmi tőke elmélete. Bourdieu szerint a társadalmi tőke azon erőforrásokat takarja, amelyek az egyén társadalmi kapcsolathálózatából származnak. Ide tartozik a kapcsolatokhoz való hozzáférés, a kölcsönös segítségnyújtás, bizalom és a társadalmi státusz. Nem pusztán az egyéni képességekről van szó, hanem arról, hogy ki milyen társadalmi hálózatokhoz kapcsolódik, és ezek milyen előnyöket biztosítanak. Bourdieu tőketípusai kapcsolódnak más típusokhoz.[4] E szerint Bourdieu három fő tőketípust különböztet meg:

- gazdasági tőke: anyagi javak, pénz,
- kulturális tőke: tudás, képzettség, ízlés, kulturális kompetenciák,
- társadalmi tőke: kapcsolati háló, társadalmi kötelékek.

Ezek egymásba átválthatók. Például társadalmi kapcsolatok révén gazdasági előnyökhöz juthat az egyén. Lényeges kiemelni a főbb jellemzőket mi szerint a társadalmi tőke nem egyenlően oszlik meg: a magasabb társadalmi státuszú

[2] ACZÉL Petra: *A tudás és az érzelmek egyensúlya*. 29. Digitális-Média Hungary. Bp., 2024. https://www.digitalhungary.hu/kultura/A-tudas-es-az-erzelmek-egyensulya/24816 [2025. 11. 12.]
[3] Vö. RAGNEDDA, Massimo–RUIU, Maria Laura: *Digital Capital: A Bourdieusian Perspective on the Digital Divide*. Northumbria University, UK: Emerald Publishing Limited, 2020.
[4] Vö. BOURDIEU, 2008.

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csoportok általában erősebb kapcsolati hálózatokkal rendelkeznek. A tőke felhalmozása és átváltása hozzájárul a társadalmi rétegződés újratermeléséhez.[5]

A digitális tőke és a társadalmi tőke hasonlóságai az alábbiak szerint azonosíthatóak. Az erőforrás jellegében meglévő hasonlóság, ahol mindkettő olyan erőforrás, amely előnyöket biztosít az egyénnek a társadalmi térben. Az egyenlőtlen eloszlásban találhatunk azonosságot, hiszen a hozzáférésben megfigyelhető egyenlőtlenségek társadalmi különbségeket eredményeznek. Ezáltal a társadalmi egyenlőtlenségek újrateremelődése figyelhető meg. Végül, de nem utolsó sorban az átválthatóság terén fedezhetünk fel hasonlóságot, mivel mindkettő más tőketípusokra (pl. gazdasági előnyökre) konvertálható.[6,7]

Az oktatás és a digitális tőke megoszlása

Az oktatás és a digitális tőke megoszlása szorosan összefügg, mert az oktatási lehetőségek egyre inkább digitális eszközökhöz és kompetenciákhoz kötődnek, illetőleg a digitális társadalom munkavilága és a jelen munkaerő piaci elvárásai is ezekhez az igényekhez igazodnak. A digitális tőke szerepe az oktatásban nem elhanyagolható aspektus. Az eszközök megléte és a hozzáférés szempontja kulcsfontosságúak. Az online tanulás, digitális tananyagok és platformok használatához megfelelő eszköz (laptop, tablet, mobiltelefon) és megfelelő sávszélességű internetkapcsolat szükségesek. Akiknél ezek a feltételek hiányosak, hátrányba kerülnek, lemaradnak. A digitális készségek hiánya szintén hátrányt okoz. Az alacsony digitális írástudás korlátozza az oktatási eredményeket, csökkenti az esélyegyenlőséget a különböző társadalmi csoportok között. Továbbá a tanulási élmény és eredményesség is meghatározó tényező. A digitális tőkével rendelkező diákok könnyebben hozzáférnek kiegészítő tananyagokhoz, interaktív tartalmakhoz, ami javítja a teljesítményüket, tágítja a világlátásukat. Így erősödik a társadalomban betöltött pozíciójuk. Erősödnek a kapcsolati hálói is, amely további előnyökhöz juttatja őket leszakadó társaikkal szemben, így a társadalmi csoportok közötti szakadék tovább nő.

Nevelési-oktatási intézmények között is különbségeket figyelhetünk meg. Kedvezőbb anyagi helyzetű intézmények több digitális eszközt és képzést biztosítanak a dolgozóknak és a tanulóiknak egyaránt, amellyel versenyelőnyhöz jutnak a többi lemaradó intézménnyel szemben. A regionális különbségeket szükségszerű kiemelni, hiszen a vidéki területeken gyakoribb az alacsony hozzáférés és gyengébb infrastruktúra. Az elsődleges szocializációs színtér, vagyis a család, rendkívül meghatározó a digitális tőke szempontjából. A szülők digitális kompetenciája és anyagi helyzete meghatározza, mennyire tudják támogatni a gyermek online tanulását. Hogyan szocializálódik az elsődleges színtéren, milyen impulzusok érik a családban, a család tagjai milyen attitűddel rendelkeznek, milyen

[5] TŐKÉS Gyöngyvér Erika: *Digitális egyenlőtlenségek és digitális tőkemegoszlás Romániában*. Információs Társadalom, 2021/3. (21.), 109–125.
[6] KUKORELLI Katalin–BARTAL Orsolya: *Digitális egyenlőtlenségek és a digitális tőkemegoszlás*. In: Balázs László–Rajcsányi-Molnár Mónika–András István–Keszi-Szeremlei Andrea (szerk.): *Átalakuló közgazdaságtan és fenntarthatóság*. DUE Press, Dunaújváros, 2024. 41–50.
[7] PRICE, Ryan: *Beyond a divide: reconceptualizing digital capital and links to academic proficiency*. Electronic Theses and Dissertations. Paper 3891.

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készségek birtokában vannak, amely támogatóan hat a gyermek ez irányú szocializációs fejlődésére. Nem csupán az intézmény feladata a tudatos, etikus felhasználóvá válás, a család szerepe is nagymértékben hozzájárul a fejlődéshez.[8] A digitális tőke megoszlása nemcsak technológiai, de oktatáspolitikai és társadalmi igazságossági kérdés is.[9]

Hazai helyzetkép (2025)

A magyarországi digitális tőkemegoszlás helyzete a hazai kutatások tükrében vegyes képet mutat. Vannak előrelépések, de jelentős egyenlőtlenségek maradtak fenn. Az eszközhöz való hozzáférés egyenlőtlen régiós eloszlását némiképpen sikerült enyhíteni, azonban vannak még olyan hátrányos helyzetű térségek hazánkban, amelyek még mindig nem képesek a fejlettebb térségekkel felvenni a versenyt. Így az ott élő fiatalok hátránnyal indulnak. Internethozzáférés tekintetében a háztartások 93%-a rendelkezik szélessávú internetkapcsolattal, ami közel van az EU-átlaghoz, ugyanakkor a területi különbségek itt is jelentősek: Észak-Alföldön 10 százalékponttal alacsonyabb az arány, mint Budapesten (98%). 2024-ben Magyarországon még nem volt 5G-hálózat, míg az EU-átlagában már 38% volt az 5G-lefedettség – ez komoly lemaradást jelez. Az üvegszálas (optikai) hálózatok lefedettsége 76,2%, ami viszont meghaladja az EU-átlagot (64%). A legalább alapvető digitális készségekkel rendelkezők aránya Magyarország: 58,9% (EU-átlag: 55,6%), de így is messze elmarad a 2030-as céltól (80%). A magasabb szintű digitális készségek Magyarországon csak 15,7%-ban, míg az EU-átlagában 19,4%-ban vannak jelen. Az IKT-szakemberek aránya Magyarországon 4,2% (EU: 4,8%), a növekedés üteme lassú. Korosztályi különbségek is megfigyelhetők: a 16–24 évesek közel 100%-ban internethasználók, míg az 55–74 évesek körében ez az arány csupán 78%.

Magyarország infrastruktúra lefedettség és ellátottság tekintetében jól áll, de digitális készségekben és vállalati digitalizációban lemaradásban van, különösen az idősebb korosztály és a hátrányos helyzetű régiók miatt. A digitális tőke megoszlása erősen társadalmi és oktatási tényezőkhöz kötött, ami fenntartja az egyenlőtlenségeket, így a techno-optimista nézet, miszerint az eszközökhöz való hozzáférés és a technológia elterjedésével a társadalmi szakadék csökkenni fog, nem látszik igazolódni.

A digitális egyenlőtlenségek mélyítik az oktatási különbségeket: a hátrányos helyzetű településeken a digitális oktatás feltételei hiányosak, a pedagógusok felkészültsége alacsony, és a családi háttér erősen befolyásolja a hozzáférést. A magyar fiatalok inkább szórakozásra használják az internetet, kevésbé tanulásra, ami rontja a digitális tőke oktatási hasznosulását.

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[8] BARTAL Orsolya: *Információs szegénység a 21. század változó tanulási környezetében*. In: BERKE József (szerk.): *27th Multimedia in Education Online Conference: Conference Proceedings*. Neumann János Számítógép-tudományi Társaság Multimédia az Oktatásban Szakosztály (NJSZT MMO), Bp., 2021. 162–168.

[9] VINCZE Anikó: *In the footsteps of Bourdieu towards digital capital: A case study on the application of the concept of digital capital on the relationship between digital and educational inequalities*. BELVEDERE MERIDIONALE 2024/1. (36.). 26–30., 25–42.

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Magyarországon 2024 szeptemberétől bevezetett 245/2024. (VIII. 8.) Korm. rendelet értelmében a nevelési-oktatási intézményekben a tiltott és a használatában korlátozott tárgyak körében tartoznak a mobileszközök (mobiletelefon, laptop, tablet), amelyek használatát központilag korlátozták. Ennek a rendelkezésnek nyilvánvalóan vannak társadalomi hatásai, az oktatásban résztvevőket közvetlenül érinti, ezért kiemelt figyelmet kapott. Az oktatási intézményeknek igazodniuk volt szükséges ehhez a szabályozáshoz, ami hatással volt az oktatás hétköznapjaira is.

A kutatás és az eredményeinek bemutatása

A kutatás célja volt, annak megvizsgálása, hogy a mobileszközök használatának korlátozása befolyásolhatja-e a digitális tőkemegoszlást? A vizsgálat nem reprezentatív mintavételi eljárással 43 szakképzésben oktató pedagógust és 114 tanulót ért el egy Fejér és egy Pest megyei középiskolából. A kutatásban az anonim, online strukturált Google Forms kérdőívet 2024.október 14.–2024. október 22. időszakban lehetett kitölteni. A kérdőív csupán nyolc kérdést tartalmazott, célzottan a témára irányulóan.

A kutatás hipotézise: A tanórai mobileszköz-használat korlátozása nem támogatja a tanulók digitális kompetenciájának fejlesztését, így negatívan befolyásolhatja a digitális tőke megoszlását.

A korlátozó rendelet értelmében az oktatási intézmények oktatói és tanulói a tanórákon igazgatói engedéllyel, oktatási célra használhatnak mobileszközöket. Ezt az iskolák többsége kihasználja, mivel fontosnak tartják a digitális kompetenciák fejlesztését, tudatosan, oktatási céllal. Oktatói döntés, tudatos használat, még céltudatosabb felhasználás eredményét igazolták a kérdőívre adott válaszok. Az oktatók szerint a figyelem lekötése hatékonyabb. A válaszadók 74,4%-a válaszolt igennel, 25,6%-a nemmel a figyelem lekötésével kapcsolatos kérdésre. Tehát a megkérdezett oktatók háromnegyede úgy véli, hogy a korlátozás bevezetése óta a tanulók figyelmét hatékonyabban tudják lekötni. Az órákon nem lehet „telefonozni”, nem tereli el a tanulók figyelmét más ingergazdag tevékenység. A mobiltelefonokat célorientáltan, oktatási tevékenységre használják, egyéb esetben elteszik.

Az oktatási folyamat újragondolása a megkérdezett oktatók 55,8%-a szerint nem volt szükséges. Eddig is használtak tradicionális és modern módszereket egyaránt. Az arányokat kellett igazítani a tananyaghoz és a korábbi módszereket újra tervezni. Fegyelmezett használat, tudatosítás jellemzi inkább a mobileszköz-használatot. Dedikált időt szánnak a digitális kompetencia tudatos fejlesztésére a szabályok, normák, értékek betartásával és betartatásával.

A „puha készségek” fejlesztése[10] aktívabban jelenik meg az intézményekben, hiszen a tanulók többet kommunikálnak személyesen egymás között és a tanáraikkal. Az óraközi szünetekben is jelen vannak, nem az online térben kommunikálnak, hanem valós tartalommal, valós időben.

[10] ACZÉL Petra*: A tudás és az érzelmek egyensúlya*. 29. Digitális-Média Hungary, Bp., https://www.digitalhungary.hu/kultura/A-tudas-es-az-erzelmek-egyensulya/24816 [2025. 11. 12.]

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A kollégák arra a kérdésre, hogy ha a diákok kevesebbet használhatják a digitális eszközöket, milyen alternatív tevékenységeket és/vagy munkaformákat vezettek be, az alábbi válaszokat adták: projektmunka, élménypedagógia, memóriakártya, digitális tananyagok kivetítése, vita, kiselőadás, pármunka. Az is tapasztalható, hogy pozitívumként jelentek meg a válaszadóknál, hogy fókuszáltan vannak jelen a tanórákon, módszertanban koncentráltabb a tudatos felhasználói fejlődés:

- információ- és adatmenedzsment (Teams, Messenger)
- kommunikáció és együttműködés (offline és online kommunikáció +)
- digitális tartalmak létrehozása (célorientált: KRÉTA-DKT, e-Bánki)
- biztonság (fegyelmezés+, kevesebb cyber bulling az iskolai fronton)
- problémamegoldás (kreatív gondolkodás, találékonyság, kritikai gondolkodás)

Az bizonyosan érzékelhető, hogy a tanulók offline tevékenysége és a jelenléti kommunikáció felerősödött, főként az intézményben töltött idő alatt.

Jövőkép

Az eredmények alapján összeségében megállapítható, hogy a rendelet folytán bekövetkezett változást az oktatók igyekeztek jól kezelni. A megkérdezettek 42,9%-a szerint az oktatási folyamat újragondolására szükség volt. Többen új munkaformákat vezettek be (tantárgyspecifikus). A figyelem fenntartása a kitöltők közel ¾-nél nem okoz gondot, s fegyelmezni sem kell olyan gyakran, mint korábban. A megkérdezett oktatók 40,5%-a szerint tanár-diák kommunikáció és 69%-uk szerint diák-diák kommunikáció aktívabbá vált.

Folyamatos oktatói (Innovatív Továbbképzési Központ) és pedagógusi (Oktatási Hivatal) szakmai továbbképzések megvalósulásával edukálhatjuk a kollégákat, így a változó feltételekhez könnyebben és gyorsabban tudnak igazodni, alkalmazkodni. A képzések segíthetik a tanárokat a digitális eszközök hatékony használatában. Egy rendszeres mentorálás nagymértékben hozzájárul a kollégák digitális készségeinek fejlődéséhez.

Célzott eszközellátás biztosítása elengedhetetlen a digitális kompetenciák fejlesztésére, amely az oktatási intézmények rendelkezésére kell, hogy álljon. Az erre irányuló intézkedések – főként a szakképzésben – már az elmúlt 5 évben folyamatosan támogatást nyújtottak erre a célra. A térségek között különbség e téren jelentős, amely a digitális tőke egyenlőtlen eloszlását tovább erősíti. Fontos a technológiai eszközök biztosítása a hátrányos helyzetű tanulók részére ahhoz, hogy ne mélyüljön a társadalmi szakadék. A fenti támogatásokkal a tanulók és a pedagógusok digitális írástudásának és adatvédelmi készségeinek fejlesztése előre mutató változást hozhat.

Feltétlenül szükséges korszerű digitális tananyagok biztosítása minden tanulónak. Ebben is több szinten történt már előrelépés a központi keretrendszer fejlesztésében (KRÉTA-DKT), valamint egyedi kialakításokban országos szinten több helyen (pl. e-Bánki keretrendszer, Dunaújvárosi Egyetem Bánki Donát Technikum).

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Konklúzió

Érzékelhető, hogy az iskolai sikerhez a társadalmi tőke, mint erőforrás nagymértékben hozzájárul. Az iskolák, mint a társadalmi tőke közvetítői jelennek meg és vállalnak szerepet ebben a folyamatban. Pedagógiai gyakorlatok és beavatkozások szükségesek ahhoz, hogy enyhíthessük a negatív befolyásoló tényezők hatásait. Mentorprogramokkal, közösségi projektekbe való bevonással, szülői kapcsolatok erősítésével, szülők edukálásával és az oktatók gyakorlati képzésének fellendítésével új lehetőségeket teremthetünk.

A célzott eszközfejlesztés nagyban elősegíti a folyamatot. Fontos a technológiai eszközök biztosítása hátrányos helyzetű tanulóknak. Lényeges továbbá az iskolai infrastruktúra fejlesztése gyors internetkapcsolattal és korszerű eszközökkel. A technikai háttér erősítésén túl nem elhanyagolható a pedagógusok digitális képzése, digitális kompetenciájának fejlesztése, annak érdekében, hogy a modern kor kihívásaira felkészülhessenek és hatékonyan tudjanak reagálni. A képzések segíthetik a tanárokat a digitális eszközök minél hatékonyabb használásában. (IKK-OTR, OH) A rendszeres mentorálás megoldást jelenthet a képzéseken szerzett ismeretek elmélyítésére, gyakorlatba való aktív átültetéshez. Fontos a digitális tőke egyenlő elosztása az inkluzív és a minőségi oktatás érdekében. A technikai fejlesztések mellett az oktatáspolitika, az iskolavezetés és pedagógusok együttműködése szükséges. A digitális eszközök pedagógiai lehetőségek, amelyek javítják az oktatás eredményességét.

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Irodalom

ACZÉL Petra: *A tudás és az érzelmek egyensúlya*. 29. Digitális-Média Hungary. Bp., 2024. https://www.digitalhungary.hu/kultura/A-tudas-es-az-erzelmek-egyensulya/24816

BARTAL Orsolya: *Információs szegénység a 21. század változó tanulási környezetében*. In: BERKE József (szerk.): *27th Multimedia in Education Online Conference: Conference Proceedings*. Neumann János Számítógép-tudományi Társaság Multimédia az Oktatásban Szakosztály (NJSZT MMO), Bp., 2021. 162–168. https://www.mmo.njszt.hu/Kiadvanyok/2021/MMO2021_Proceedings.pdf

BOURDIEU, Pierre: *A társadalmi egyenlőtlenségek újratermelődése*. General Press, Bp., 2008.

KUKORELLI Katalin–BARTAL Orsolya: *Digitális egyenlőtlenségek és a digitális tőkemegoszlás*. In: Balázs László–Rajcsányi-Molnár Mónika–András István–Keszi-Szeremlei Andrea (szerk.): *Átalakuló közgazdaságtan és fenntarthatóság*. DUE Press, Dunaújváros, 2024. 41–50.

PRICE, Ryan: *Beyond a divide: reconceptualizing digital capital and links to academic proficiency*. Electronic Theses and Dissertations. Paper 3891. 2022. DOI:10.18297/etd/3891

RAGNEDDA, Massimo–RUIU, Maria Laura: *Digital Capital: A Bourdieusian Perspective on the Digital Divide*. Northumbria University, UK: Emerald Publishing Limited, 2020.

TŐKÉS Gyöngyvér Erika: *Digitális egyenlőtlenségek és digitális tőkemegoszlás Romániában*. Információs Társadalom, 2021/3. (21.) 109–125. DOI: 10.22503/inftars.XXI.2021.3.5

VINCZE Anikó: *In the footsteps of Bourdieu towards digital capital: A case study on the application of the concept of digital capital on the relationship between digital and educational inequalities*. BELVEDERE MERIDIONALE 2024/1. (36.) 25–42. DOI: 10.14232/belv.2024.1.2

Dokumentumok

Magyarország 2024. évi országjelentése a digitális évtizedről. https://digital-strategy.ec.europa.eu/hu/factpages/hungary-2024-digital-decade-country-report

Abstract

SOCIAL PATTERNS OF THE DISTRIBUTION OF DIGITAL CAPITAL

Starting with the 2024–2025 school year, pursuant to Government Decree No. 245/2024 (August 8), educational institutions were required to develop procedures regarding the scope of prohibited and restricted items in order to limit the use of mobile devices. Since the decree's introduction, numerous issues and concerns – which have also captured public attention – have arisen among those directly affected, and, surprisingly, among those not directly affected as well, across various platforms. This presentation examines the effects of restricting mobile device use, with a particular focus on the distribution of digital capital. The presentation presents a pilot study from the everyday reality of vocational education and aims to address the projected impact of the distribution of digital capital as well.

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Preisendörfer Tímea

THE APPLICATION OF MULTIPLE INTELLIGENCES THEORY IN THE EFL CLASSROOM: A HUNGARIAN PERSPECTIVE

Introductory Remarks

According to Howard Gardner's theory of multiple intelligences, human cognition cannot be described as a single, unified ability but rather as a set of relatively autonomous intelligences. Gardner originally identified seven intelligences, later extending the model to eight, while leaving open the possibility of further expansion.[1] In his more recent works, however, he adopts a more cautious position regarding the extension of the model.[2] Although all individuals possess each of these intelligences, their profiles differ as a result of genetic predispositions and diverse experiential backgrounds; consequently, different intelligences tend to become dominant in different individuals.[3]

In the Hungarian academic context, the terminology used to denote the individual intelligences has not yet been fully standardised. In the present study, the nomenclature proposed by Dezső is applied.[4] Accordingly, the following intelligences are distinguished: linguistic intelligence, logical–mathematical intelligence, spatial intelligence, musical intelligence, bodily–kinaesthetic intelligence, naturalistic intelligence, interpersonal intelligence, and intrapersonal intelligence.

Research Design and Methods

From the autumn of 2019 onward, the present study was grounded in continuous engagement with relevant scholarly literature. In the spring of 2020, a questionnaire survey was conducted, followed by a secondary document analysis in the autumn of the same year. As part of the comprehensive research design, structured in-depth interviews were carried out in the spring of 2021.

The study follows a qualitative research approach and is guided by exploratory research questions. These include whether teachers of English in lower primary education are familiar with Gardner's theory of multiple intelligences; whether they may apply its principles intuitively even without explicit theoretical knowledge; and whether pupils in groups where the theory is consciously applied to acquire language knowledge more effectively. In order to address these

[1] GARDNER, Howard: *Frames of Mind: The Theory of Multiple Intelligence*. Basic Books, New York, 1983. (Hereinafter: GARDNER, 1983.)
[2] GARDNER, Howard: A *Synthesizing Mind: A Memoir from the Creator of the Theory of Multiple Intelligences*. MIT Press, Cambridge, 2020.
[3] DEZSŐ Renáta Anna: *Intelligenciák másképp*. Gondolat, Bp., 2021. (Hereinafter: DEZSŐ, 2021.)
[4] DEZSŐ, 2021.

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questions, methodological triangulation was employed, combining qualitative and quantitative research techniques through the use of at least three distinct methods.[5]

The Relevance of Connecting the Multiple Intelligences Theory and EFL Education

Empirical research suggests that the age at which children begin learning a foreign language significantly influences brain structure. Studies conducted at McGill University indicate that foreign language learning after early childhood contributes to the formation of new neurons and neural connections, and that language learning initiated during childhood lays the foundations for later learning processes.[6]

Students of the so-called Alpha generation – those born after 2010 – are now present in classrooms. These learners have grown up in a digital environment, with many having used touchscreen devices before the age of two.[7] From the perspective of the present study, it is essential to recognise that these pupils require different pedagogical approaches in order to support effective teaching and learning. The presence of digital tools alone is insufficient; teaching practices must include a variety of activities capable of sustaining learners' attention and engagement. The application of Gardner's multiple intelligences framework may offer a viable way to support meaningful and transferable foreign language learning.

International Research Context

In recent years, the relationship between the theory of multiple intelligences and English language education has been examined in several international contexts. Research findings indicate that learning activities grounded in the multiple intelligences approach contribute to more positive learner attitudes, higher levels of motivation, and improved learning outcomes when compared to traditional teaching methods.[8] The application of the theory has also been shown to support the development of writing skills at the elementary level[9] and to enhance

[5] SÁNTHA Kálmán: *Kvalitatív kutatás a neveléstudományban*. ELTE Eötvös Kiadó, Bp., 2007.; SZOKOLSZKY Ágnes: *Kutatómunka a pszichológiában*. Osiris, Bp., 2004.; BONCZ Imre: *Kutatásmódszertan az egészségügyben*. Medicina, Bp., 2015.

[6] KLEIN, Denise–MOK, Kwok-Fai–CHEN, Jenny K.–WATKINS, Kate E.: *Age of language learning shapes brain structure: a cortical thickness study of bilingual and monolingual individuals*. Brain and Language, 2014/131., 20–24.

[7] PINTÉR Tibor: *Az alfa generáció jellemzői és kihívásai*. In: Kéri Katalin (szerk.): *Gyermek és iskola a 21. században*. Pécsi Tudományegyetem, Pécs, 2016. 45–56.

[8] BAS, Gökhan–ÖMER, Beyhan: *Effects of multiple intelligences supported project-based learning on students' achievement levels and attitudes towards English lesson*, International Electronic Journal of Elementary Education, 2010/3., 365–385.

[9] RODRÍGUEZ, María: *The application of multiple intelligences theory to improve writing skills in elementary education: A case study at Universidad Loyola, San Ignacio*. Journal of Educational Research and Practice, 2020/2., 112–124.

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teaching–learning contexts by aligning instructional practices with learners' individual needs.[10]

Multiple Intelligences Research in Hungary

Although only a limited number of comprehensive volumes on the educational application of the theory of multiple intelligences are available in Hungarian translation, empirical and theoretical research related to Gardner's framework and its applicability in public education has been conducted extensively in Hungary. Early research activities were primarily associated with the Institute of Psychology and doctoral programmes at the University of Debrecen.

Within the Institute of Educational Sciences at the Faculty of Humanities and Social Sciences of the University of Pécs, the systematic investigation of the educational application of Gardner's theory has been closely linked to the scholarly work of Dezső. Her research extends beyond the field of gifted education and includes both theoretical and practical studies addressing multiple intelligences across a wide range of educational contexts, from early childhood education to teacher training.[11]

The Teachers' College for Teacher Trainees provides an institutional framework for student-led research through small-scale research groups focusing on diversity in education. Within this framework, the Diversity Microgroup, coordinated by Dezső, has examined the validity and applicability of the multiple intelligences approach in Hungarian-language public education and teacher education in the Carpathian Basin. These research initiatives build on earlier postdoctoral research projects conducted by Dezső in collaboration with Sándor-Schmidt.[12]

Sándor-Schmidt's research initially examined the relationship between the Montessori method and the theory of multiple intelligences in a kindergarten setting. In subsequent studies, previously collected multi-coded data were subjected to qualitative analysis using the ATLAS.ti software. Emotive coding was applied to explore children's perspectives on play-based activities and to reveal deeper emotional and pedagogical dimensions of learning.[13]

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[10] ALREFAEI, Fahad: *Investigating the relationship between multiple intelligences and English language proficiency in a secondary school context*. Journal of Language Teaching and Research, 2020/2., 235–243.

[11] DEZSŐ Renáta Anna: *A többszörös intelligenciák pedagógiai értelmezése*. Iskolakultúra, 2012/11., 3–15; DEZSŐ Renáta Anna: *Többszörös intelligenciák és tehetséggondozás*. Pedagógusképzés, 2014/2., 45–58.; DEZSŐ Renáta Anna: *Gardner elméletének gyakorlati alkalmazása a pedagógusképzésben*. Neveléstudomány, 2015/1., 27–41.

[12] VARGA Júlia: *A Tanárjelöltek Szakkollégiumának szerepe a pedagógusképzésben*. Pedagógusképzés, 2016/1., 85–97.; DEZSŐ Renáta Anna: *Gardner elméletének alkalmazása a pedagógusképzésben*. In: Dezső Renáta Anna (szerk.): *Intelligenciák másképp*. Gondolat, Bp., 2021. 95–112.; SÁNDOR-SCHMIDT Barbara: *A többszörös intelligenciák érvényesülése a köznevelésben – empirikus vizsgálatok a Kárpát-medencében*. Neveléstudomány, 2019/3., 58–73.

[13] SÁNDOR-SCHMIDT Barbara: *Az intelligenciák spektrumai – Az óvodás korú gyermekek többszörös intelligenciájának feltérképezése*. In: *Innovatív módszerek a pedagógiai-pszichológiai gyakorlatban Ukrajna európai integrációjának tükrében*. Kálvin Nyomda, 2016. 421–429.; SÁNDOR-SCHMIDT Barbara: *Kora gyermekkori érzelmi vizsgálat videoadatok kvalitatív elemzésével. A 15 éves PEME XVII: PhD-konferenciájának előadásai*. PEME, Bp., 2019. 310–317.

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Further Hungarian research has addressed the role of interpersonal and intrapersonal intelligences in early childhood. Findings indicate that both social competence development and family background significantly influence the development of interpersonal intelligence in preschool-aged children.[14]

In the field of foreign language education, Hodovánné examined opportunities for pupil development in English lessons through an analysis of tasks contained in the *Project 3* textbook series. The present study builds on this work by conducting a secondary analysis of the same materials, focusing on the types of activities associated with individual intelligences and the frequency with which they occur. Initially, only textbook tasks were examined; subsequently, all task types across the complete *Project 3* teaching package were taken into account in order to establish a comprehensive ranking of the mobilised intelligences.[15]

Questionnaire Survey

The questionnaire survey was conducted during the period of pandemic-related distance education. The survey was distributed between 16 and 30 March 2020, and respondents were given two weeks to complete it. A total of 72 teachers teaching English in lower primary education participated in the study. In order to ensure accessibility, ease of use, and rapid completion, an online format was selected, and the questionnaire was created using Google Forms.[16]

Participants were recruited through professional networks and social media groups. The questionnaire was self-administered and fully anonymous, thereby supporting honest responses. While the method allowed for rapid data collection during a challenging period, it may have excluded some older teachers with limited digital competence. Although the exact reach of the survey link could not be tracked, it is estimated that between 100 and 200 teachers may have accessed it, of whom 72 provided valid responses.[17]

Prior to distribution, the questionnaire was piloted with two language teachers and one non-teacher respondent in order to assess clarity, comprehensibility, and wording. This process helped to minimise artificial formulations that could have distorted the results.[18]

The questionnaire consisted of three main sections. The first section focused on sample characteristics, while the second section varied according to respondents' familiarity with the theory of multiple intelligences and consisted of either 14 or 16 items. Respondents who reported familiarity with the theory and its conscious application during teaching received a different set of questions from those who were unfamiliar with it or who did not apply it in practice. This structure allowed the study to explore whether teachers may mobilise different intelligences intuitively, even in the absence of explicit theoretical knowledge.

[14] ÁBRAHÁM Gréta: *Az intraperszonális és interperszonális intelligencia, valamint a szociális hatékonyság kapcsolata óvodáskorú gyermekeknél*. 2020.
[15] HODOVÁNNÉ: *A többszörös intelligenciák megjelenése a Project 3 tankönyvcsalád feladataiban*. Mesterképzés szakdolgozata. 2012.
[16] KONTRA, J.: *A pedagógiai kutatások módszertana*. Kaposvári Egyetem, Kaposvár, 2011.
[17] KONTRA, 2011.
[18] KONTRA, 2011.

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Most items targeted factual information, though some questions elicited respondents' opinions. One open-ended question was included to collect qualitative insights from teachers who reported applying the multiple intelligences framework. Closed-ended yes–no questions and semi-closed items with optional responses were also applied.

To obtain quantifiable data, Likert-type scales were employed. Teachers familiar with and applying the theory rated the frequency with which they addressed specific intelligences in their lessons on a four-point scale. This design avoided neutral midpoint responses and encouraged clear judgments. Respondents who were unfamiliar with the theory or did not apply it evaluated the frequency of 32 different classroom activities on a five-point scale, allowing for greater differentiation across a diverse range of teaching practices.[19]

Each intelligence was represented by four characteristic activities; however, the activities were not labelled according to intelligences in the questionnaire in order to avoid influencing respondents' answers.

Survey Results

Given that the theory of multiple intelligences constituted the conceptual core of the study, respondents were first classified according to their familiarity with and use of the theory. While 52.7% of respondents reported familiarity with the theory, only 33.3% stated that they consciously adapted their lessons to students' different intelligence profiles. A considerable proportion of respondents (42.2%) had not previously encountered the theory at all.

Among the 24 respondents who reported applying the multiple intelligences approach, teachers constituted the majority (66.6%). This finding reflects both the dominant role of primary school teachers in lower primary English instruction and the greater prevalence of the theory among this professional group. Notably, only half of these respondents reported assessing students' intelligence profiles in advance, suggesting either partial knowledge of the theory or socially desirable response behaviour.

When examining the frequency with which different intelligences were mobilised during English lessons, linguistic intelligence emerged as the most consistently addressed. The majority of respondents reported frequent activation of this intelligence, while other intelligences were addressed with varying regularity.

An open-ended item explored teachers' experiences in groups where tasks were adapted to students' different intelligences. Although this item was optional, 13 respondents provided detailed reflections. Only one respondent reported no noticeable difference. The remaining responses highlighted increased engagement, deeper involvement in tasks, enhanced motivation, and more durable learning outcomes. Several respondents emphasised that students benefited from success experiences aligned with their strengths and that classrooms became more tolerant and inclusive environments.

[19] ZERÉNYI, K.: *A Likert-skála adta lehetőségek és korlátok*. Opus et Educatio, 2014/3., 470–478. http://epa.oszk.hu/02700/02724/00009/pdf/EPA02724_opus_et_educatio_2016_04_470-478.pdf.

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The second part of the questionnaire analysed responses from teachers who were either unfamiliar with the theory or familiar with it but did not apply it in practice (n = 48). Nearly half of these respondents had no prior knowledge of the multiple intelligences framework, while 19.4% reported familiarity without application. Despite this, activity frequency data indicated that teachers regularly mobilised multiple intelligences implicitly through their classroom practices.

Finally, respondents were asked whether they would like to gain a deeper understanding of the theory of multiple intelligences. Of the 48 respondents in this group, 46 answered affirmatively, indicating strong professional interest in further engagement with the framework.

In-depth Interviews

During the preparation of the in-depth interviews, particular attention was paid to maintaining researcher neutrality and avoiding the expression of personal views related to the topic. Owing to the circumstances of the COVID-19 pandemic, the interviews were conducted online. The interview guide was designed to begin with warm-up questions that facilitated conversation, followed by open-ended questions formulated in clear and accessible language in order to reduce potential tension among participants.[20]

The analysis focused on participants' language use, which provided insights into the depth of their familiarity with Gardner's theory of multiple intelligences. Further analytical dimensions included teachers' relationship to foreign language teaching, their openness to innovative pedagogical approaches, and perceived challenges in English language education. These dimensions enabled conclusions to be drawn regarding the realities of English language acquisition in lower primary education.

The interviews revealed that participants were highly committed educators who demonstrated strong dedication to supporting their pupils' learning. Although they had typically encountered the theory of multiple intelligences at some point, most did not possess in-depth theoretical knowledge and did not consciously mobilise different intelligences during English lessons. Nevertheless, they consistently employed a wide range of teaching methods to sustain pupils' attention and engagement.

Triangulation of Findings

The first research question was addressed through both the questionnaire data and the interview findings. While 52.7% of the 72 respondents reported familiarity with the multiple intelligences approach, only 19.4% indicated that they consciously mobilised students' different intelligences during the process of English language learning. Notably, among the 24 respondents who reported applying the approach, only half conducted prior assessments of students' intelligence profiles,

[20] HELTAI, E.–TARJÁNYI, J.: *A mélyinterjú készítése és az elkövethető hibák forrásai*. In: LETENYEI, László (szerk.): *Településkutatás*. Osiris, Bp., 2000.

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suggesting an incomplete understanding of the theory – a conclusion also supported by the interview data.

The second research question, concerning the intuitive mobilisation of intelligences in the absence of explicit theoretical knowledge, was clearly confirmed. Evidence from questionnaire responses, secondary document analysis, and interview data consistently indicated that teachers frequently engaged a range of intelligences despite lacking formal familiarity with the theory. Linguistic intelligence was most prominently mobilised in English lessons, while bodily–kinaesthetic, musical, and spatial intelligences were also activated regularly. In contrast, activities associated with naturalistic intelligence occurred least frequently.

A comparison of questionnaire findings with the secondary analysis of the *Project 3* textbook series further illuminated these patterns. While linguistic intelligence was consistently mobilised across both data sources, discrepancies emerged in relation to other intelligences. For instance, musical intelligence was highly represented in textbook activities but appeared less frequently in classroom practice. Logical–mathematical and spatial intelligences showed comparable patterns across both contexts, whereas intrapersonal and interpersonal intelligences were mobilised less frequently in lower primary settings, possibly due to age-specific developmental characteristics.

The triangulated findings also highlighted differences between textbook content and classroom practice regarding bodily–kinaesthetic intelligence. While this intelligence ranked low in the textbook analysis, it appeared more frequently in classroom activities, reflecting teachers' reliance on movement-based strategies in lower primary education. Both data sources converged in identifying naturalistic intelligence as the least frequently mobilised.

Interview data corroborated these findings by demonstrating that teachers routinely combined diverse teaching methods and prioritised the maintenance of pupils' attention, the reinforcement of individual strengths, and the targeted development of weaker areas. Although only a small proportion of respondents reported consciously applying Gardner's theory, qualitative responses suggested that students often benefited from differentiated task design through increased motivation, deeper engagement, and more enduring learning outcomes. At the same time, some teachers reported no substantial differences, underscoring the variability of classroom contexts and implementation practices.

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Literature

ÁBRAHÁM Gréta: *Az intraperszonális és interperszonális intelligencia, valamint a szociális hatékonyság kapcsolata óvodáskorú gyermekeknél*, 2020.
ALREFAEI, Fahad: *Investigating the relationship between multiple intelligences and English language proficiency in a secondary school context*, Journal of Language Teaching and Research, 2020/2., 235–243.
BAS, Gökhan–ÖMER, Beyhan: *Effects of multiple intelligences supported project-based learning on students' achievement levels and attitudes towards English lesson*. International Electronic Journal of Elementary Education, 2010/3., 365–385.
BONC Imre: *Kutatásmódszertan az egészségügyben*. Medicina, Bp., 2015.
DEZSŐ Renáta Anna: *A többszörös intelligenciák pedagógiai értelmezése*. Iskolakultúra, 2012/11., 3–15.
DEZSŐ Renáta Anna: *Többszörös intelligenciák és tehetséggondozás*. Pedagógusképzés, 2014/2., 45–58.
DEZSŐ Renáta Anna: *Gardner elméletének gyakorlati alkalmazása a pedagógusképzésben*. Neveléstudomány, 2015/1., 27–41.
DEZSŐ Renáta Anna: *Gardner elméletének alkalmazása a pedagógusképzésben*. In: DEZSŐ Renáta Anna (szerk.): *Intelligenciák másképp*. Gondolat, Bp., 2021. 95–112.
GARDNER, Howard: *Frames of Mind: The Theory of Multiple Intelligences*. Basic Books, New York, 1983.
GARDNER, Howard: *Frames of Mind: The Theory of Multiple Intelligences*. Basic Books, New York, 2011.
GARDNER, Howard: *A Synthesizing Mind: A Memoir from the Creator of the Theory of Multiple Intelligences*. MIT Press, Cambridge, 2020.
HELTAI Erzsébet–TARJÁNYI József.: *A mélyinterjú készítése és az elkövethető hibák forrásai*. In: LETENYEI László (szerk.): *Településkutatás*. Osiris, Bp., 2000.
HODOVÁNNÉ: *A többszörös intelligenciák megjelenése a Project 3 tankönyvcsalád feladataiban*. Mesterképzés szakdolgozata, 2012.
KLEIN, Denise–MOK, Kwok-Fai–CHEN, Jenny K.–WATKINS, Kate E.: *Age of language learning shapes brain structure: a cortical thickness study of bilingual and monolingual individuals*. Brain and Language, 2014/131., 20–24.
KONTRA József: *A pedagógiai kutatások módszertana*. Kaposvári Egyetem, Kaposvár, 2011.
PINTÉR Tibor: *Az alfa generáció jellemzői és kihívásai*. In: KÉRI Katalin (szerk.): *Gyermek és iskola a 21. században*, Pécsi Tudományegyetem, Pécs, 2016. 45–56.
RODRÍGUEZ, María: *The application of multiple intelligences theory to improve writing skills in elementary education: A case study at Universidad Loyola, San Ignacio*, Journal of Educational Research and Practice, 2020/2., 112–124.
SÁNDOR-SCHMIDT Barbara: *Az intelligenciák spektrumai – Az óvodás korú gyermekek többszörös intelligenciájának feltérképezése*. In: *Innovatív módszerek a pedagógiai-pszichológiai gyakorlatban Ukrajna európai integrációjának tükrében*. Kálvin Nyomda, 2016. 421–429.

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SÁNDOR-SCHMIDT Barbara: *A többszörös intelligenciák érvényesülése a köznevelésben – empirikus vizsgálatok a Kárpát-medencében*, Neveléstudomány, 2019/3., 58–73.
SÁNDOR-SCHMIDT Barbara: *Kora gyermekkori érzelmi vizsgálat videoadatok kvalitatív elemzésével*. A 15 éves PEME XVII: PhD-konferenciájának előadásai. PEME, Bp., 2019. 310–317.
SÁNTHA Kálmán: *Kvalitatív kutatás a neveléstudományban*. ELTE Eötvös Kiadó, Bp., 2007.
SZOKOLSZKY Ágnes: *Kutatómunka a pszichológiában*. Osiris, Bp., 2004.
VARGA Júlia: *A Tanárjelöltek Szakkollégiumának szerepe a pedagógusképzésben*. Pedagógusképzés, 2016/1., 85–97.
ZERÉNYI Károly: *A Likert-skála adta lehetőségek és korlátok*. Opus et Educatio, 2014/4., 470–478. http://epa.oszk.hu/02700/02724/00009/pdf/EPA02724_opus_et_educatio_2016_04_470-478.pdf

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Abstract

THE APPLICATION OF MULTIPLE INTELLIGENCES THEORY IN THE EFL CLASSROOM: A HUNGARIAN PERSPECTIVE

The Multiple Intelligences (MI) theory appears in various forms in teaching and learning worldwide. Studies suggest that lessons based on this theory are more engaging and effective. My own findings in different educational settings also support its relevance to the EFL teaching–learning process. My research was similarly grounded in this framework.

The study tested three hypotheses: first, that English teachers in lower grades are generally unfamiliar with Gardner's MI theory; second, that even without explicit awareness, they instinctively apply its principles; and third, that students taught by teachers consciously using MI theory achieve better language outcomes. Data were collected through questionnaires from 72 elementary teachers, a secondary analysis of a related master's thesis, and three in-depth interviews. Results show that over half of the teachers know the theory, often apply it intuitively, and that their students demonstrate stronger understanding and language acquisition.

Absztrakt

A TÖBBSZÖRÖS INTELLIGENCIA ELMÉLET ALKALMAZÁSA AZ ANGOL MINT IDEGEN NYELV OKTATÁSÁBAN: MAGYAR PERSPEKTÍVA

A többszörös intelligencia (MI) elmélet világszerte különböző formákban jelenik meg a tanításban és a tanulásban. A kutatások arra utalnak, hogy az ezen elméleten alapuló órák vonzóbbak és hatékonyabbak. Saját, különböző oktatási környezetben szerzett tapasztalataim szintén alátámasztják az elmélet relevanciáját az angol mint idegen nyelv (EFL) tanítási–tanulási folyamatában. Kutatásom szintén ezen a keretrendszeren alapult.

A tanulmány három hipotézist vizsgált: először is, hogy az alsóbb osztályok angol tanárai általában nem ismerik Gardner MI-elméletét; másodszor, hogy még ha nem is tudatosul bennük, ösztönösen alkalmazzák annak elveit; és harmadszor, hogy azok a diákok, akiket az MI-elméletet tudatosan alkalmazó tanárok tanítanak, jobb nyelvi eredményeket érnek el. Az adatokat 72 általános iskolai tanár kérdőíves felmérésével, egy kapcsolódó mesterképzési szakdolgozat másodlagos elemzésével, valamint három mélyinterjúval gyűjtöttük. Az eredmények azt mutatják, hogy a tanárok több mint fele ismeri az elméletet, gyakran intuitív módon alkalmazza azt, és hogy tanítványaik jobb megértést és nyelvtanulási eredményeket mutatnak.

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Horvatić, Tea

SLAYING THE LEXICON: GENERATIONAL TAKES AND PEDAGOGICAL APPROACHES ON INTERNET SLANG IN FOREIGN LANGUAGE TEACHING

Introduction

Digital communication has fundamentally reshaped the dynamics of language, with unprecedented surge of neologisms—newly coined terms and expressions entering schools and classrooms. This linguistic evolution, primarily driven by internet platforms, introduces a critical challenge and opportunity for the field of foreign language (FL) education. While traditional pedagogy emphasizes the acquisition of established lexicon and formal grammar, the reality is that communicative competence in the modern era demands familiarity with the dynamic, informal language of the internet, often referred to as "internet speech."[1]

The rapid adoption of these new lexical items presents a distinct struggle for educators. As students begin incorporating fresh slang and neologisms into classroom discussions and written assignments, teachers often find themselves searching outdated dictionaries but fail to find definitions and contextual usage. While internet searches may yield more data, the information is often unstructured; however, publishers are increasingly acknowledging this trend by highlighting the "most used words of the year,"[2] and some proactive teachers are now attempting to incorporate neologisms into their pedagogy to remain current and increase student engagement.

This paper presents an analysis of the role and perception of these internet-originated lexical items within the foreign language learning context. The study employs a mixed-methods approach, utilizing surveys and interviews conducted among three key generational cohorts: Generation X, Generation Y (Millennials), and Generation Z. The core findings reveal a numerical generational gradient in neologism reception, ranging from cautious scepticism among older cohorts to nearly seamless integration among younger, digitally immersed learners. Consequently, the paper critically assesses the pedagogical necessity of incorporating these terms to enhance both communicative competence and cultural literacy, offering practical, evidence-based classroom strategies.

Theoretical Framework and Literature Review

Neologisms, defined as newly coined terms or expressions, represent a vital and dynamic component of language. They act as essential linguistic innovations that serve as markers of rapid cultural, technological, and social change. Some researchers assert that these terms are not merely "linguistic curiosities" but

[1] CRYSTAL, David: *Language and the Internet, 2nd ed.*, Cambridge UP, Cambridge, 2006. 17.
[2] https://www.dictionary.com/articles/word-of-the-year-2025 [02. 01. 2026.]

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significant „societal and technological transformation markers," with internet discourse serving as the primary catalyst for this innovation.[3] In translation studies, they are defined as „newly coined lexical units or existing lexical units that require a new sense,"[4] while in lexicography, a new word is characterized as „a form or the use of a form not recorded in general dictionaries".[5] The emergence of these terms researchers[6] describe as the social-semiotic perspective of language, where language is not merely a set of rules, but a system of meanings influenced by the social context in which it occurs.

These new lexical items are typically formed through morphological, lexical, or semantic processes, such as derivation, blending, or borrowing, allowing language to adapt to changing human environments[7]. Crucially, the process of neologism formation and subsequent dissemination has been heavily influenced by the rapid advancements in internet-based communication. Platforms such as X (Twitter), Instagram, and TikTok create environments where neologisms flourish on a global scale. Many of these terms start as context-specific jargon and gradually gain wider acceptance, becoming fully integrated into a community's lexicon.

The rise of digital platforms has given rise to a distinct form of language often called „internet speech" or „Netspeak." This domain is characterized by a high number of abbreviations, acronyms, slang, and other neologisms marked by their brevity and creativity.[8] Internet speech features phonetic and orthographic innovations, such as the intentional misspelling of „kewl" for „cool," which often reflects a desire for playfulness and identity construction within digital communities. The word "slay" no longer means "to kill the dragon", but to impress strongly and favourably – therefore to slay the lexicon and pursue new teaching methods, teachers and researchers must keep pace with the growing corpora.

This rapid linguistic evolution is driven by the preference for brevity and speed in digital communication, as users seek efficient ways to convey messages on platforms with character limits or in real-time dialogue. This phenomenon is described as a „neological boom," noting that social networks like Facebook, Twitter, and Instagram are „one of the most productive sources of neologisms" due to the massive user base generating new words at high speed.[9] Others further observe that these terms are „widely and quickly accepted" in global social networking sites, facilitating faster communication and fostering relationships.[10]

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[3] BYKOVA, Tetiana Valeriivna: *Neologisms in internet discourse: Dynamics of linguistic innovation in digital communication*. Philological Periodical of Lviv, 2024/. (16.), 1–6.
[4] NEWMARK, Peter: *A textbook of translation*. Prentice-Hall. 1988. 40.
[5] ALGEO, John: *Fifty Years Among the New Words: A Dictionary of Neologisms*, 1941–1991. Cambridge University Press, 1991. 2.
[6] HALLIDAY, Michael Alexander Kirkwood—HASAN, Ruqaiya: *Language, context, and text: Aspects of language in a social-semiotic perspective*. Deakin University Press. 1985. 10–38.
[7] ORTIZ COLINA, Raquel: *English Neologisms in Modern Times*. 2021. 6–17.
[8] CRYSTAL, David: *Language and the Internet, 2nd ed.*, Cambridge UP, Cambridge, 2006. 17.
[9] PAIZULLAYEV, Ye. N.—SAK, S. T.: *The influence of social networks on the word formation of neologisms in the English language (on the example of Facebook, Twitter and Instagram)*. Philological Sciences, 2024/1. (72.), 15–20., 1.
[10] ŠETKA ČILIĆ, Ivona—ILIĆ PLAUC, Jelena: *Today's usage of neologisms in social media communication*. DHS: Društvene i humanističke studije, 2021/1. (14.), 115–140., 115.

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Consequently, the influence of Netspeak extends beyond purely online environments, increasingly permeating everyday language and reshaping linguistic norms. This pervasive influence underscores why the study and inclusion of this contemporary lexicon are indispensable for fostering effective communication in a foreign language context.

The study and inclusion of neologisms are indispensable for fostering effective communication in a foreign language context. Within foreign language acquisition, neologisms are critically important because they are intrinsically tied to contemporary social phenomena, making them necessary for learners to achieve true communicative competence in real-life, current situations.[11]

By integrating neologisms, educators facilitate learners' access to authentic and current language, thus enhancing both their vocabulary and overall cultural understanding. Since many new terms carry culturally embedded meanings,[12] their study equips learners to interpret the subtleties of modern intercultural interaction. British Council reports that more than 80% of teachers report looking up expressions and slang their pupils use in class, and a study found that older teachers (Gen X) are more likely to check the meaning of these expressions than younger colleagues.[13] This practice transforms language education from a static acquisition of a traditional lexicon into a dynamic, culturally responsive process.

Generational Perspectives on Neologisms

Understanding how different generational groups perceive language innovation is critical, as each cohort's exposure to technology and media profoundly influences their linguistic behaviour and attitudes.

Generation X (born 1965–1980)

Generation X, having largely come of age before the widespread use of the internet, often upholds a more conservative view on language. This cohort tends to prefer traditional linguistic norms and may exhibit scepticism or resistance toward internet slang and neologisms. Their limited exposure to digital communication during their formative years contributes to a cautious stance and a perception that neologisms could undermine language purity. In educational settings, members of Gen X frequently prioritize formal language standards, which can challenge the integration of informal, digital lexicon into learning materials designed for them. This scepticism is reinforced by the finding that slang often functions as a „password" for youth groups, specifically intended to „hide the meaning" from older generations such as parents and teachers.[14]

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[11] HYMES, Dell: *On communicative competence*. In: Pride J. B.—Holmes J. (Eds.): *Sociolinguistics: Selected readings*. Penguin. 1972. 269–293.
[12] SANDYHA et al.: *Selfie neologisms in social networks*. Amazonia Investiga, 2022/11. (49.), 126–135.
[13] https://www.britishcouncil.org/voices-magazine/skibidi-what-85-teachers-admit-they-have-look-student-slang [02. 01. 2026.]
[14] PASECHNAYA, Lyudmila A.—SHCHERBINA, Valentina E.: *Internet neologizms as youth slang supplementation: The main ways of formation*. European Proceedings of Social and Behavioural Sciences, 2020/83. 535–542.

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Generation Y / Millennials (born 1981–1996)

In contrast, Generation Y grew up alongside the rise of the internet and tends to adopt a more positive and adaptive stance toward neologisms. This generation demonstrates a favourable attitude, integrating these forms fluidly into both spoken and written communication. Millennials not only accept but actively participate in the creation and dissemination of neologisms, reinforcing their engagement in language learning contexts. They often embrace neologisms as markers of social identity and affiliation with peer groups.[15]

Generations Z (born 1997–2012) & Alpha (born c. 2010–onward)

Generation Z and the youngest cohort, Generation Alpha, are increasingly immersed in technology-rich environments from birth. This early and continuous exposure naturally nurtures a natural and unabashed acceptance of neologisms and internet speech. For these digital natives, innovative linguistic forms are integral to their everyday communicative repertoire. This specific youth slang can also help establish a „trendy" or „cool" status within the peer group.[16] While highly fluent in digital communication, members of these generations can also exhibit nuanced and sometimes sceptical attitudes toward new language forms, critically evaluating their authenticity and effective use.

Comparative Analysis and Educational Implications

A clear generational gradient emerges from this comparative analysis, moving from resistant to fully immersed users of digital language forms. Traditional literature[17] argued that age was the primary divider in digital competency and suggested a stark divide between 'digital natives' and others. More recent evidence suggests that age is a poor predictor of digital skill when compared to actual usage patterns.[18] As documented by Labov,[19] the sociolinguistic patterns of age-grading and language change suggest that linguistic innovation is typically led by younger cohorts while older generations maintain more conservative registers. The degree of digital literacy and their early-life exposure to interactive media seems to be a predictor of neologism use. These differences profoundly impact learner motivation; younger generations show greater enthusiasm for language practices that mirror their actual social lives, while older learners may find the inclusion of such terms confusing or unprofessional.

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[15] OROLIĆ, Patricia: *English neologisms in social media: A linguistic analysis*. Master's thesis, Josip Juraj Strossmayer University of Osijek, 2023. 55.
[16] PASECHNAYA, Lyudmila A.—SHCHERBINA, Valentina E.: *Internet neologizms as youth slang supplementation: The main ways of formation*. European Proceedings of Social and Behavioural Sciences. 2020/83. 535–542.
[17] PRENSKY, Marc: *Digital natives, digital immigrants part 1*. On the Horizon, 2001/5. (9.), 1–6.
[18] MARGARYAN et al.: *Are digital natives a myth or reality? University students' use of digital technologies*. Computers & Education, 2011/2. (56.), 429–440.
[19] LABOV, William: *Sociolinguistic Patterns*. University of Pennsylvania Press, 1972. 161–163.

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Acknowledging these differences suggests that educators may need to consider differentiated teaching strategies. Accommodations could include balancing standard language norms with contemporary usages, teaching students not just the words, but the context in which they are appropriate. For example, a student might be taught that while "cap" is a valid way to express disbelief in a text message, it remains inappropriate for a formal essay. Deliberately employing technology to create tailored learning opportunities can bridge these generational divides, fostering a more inclusive, relevant classroom environment that acknowledges the communicative validity of the informal while upholding the standards of the formal.

Method

This study employed a mixed-methods research design to achieve a comprehensive understanding of neologism perception and adoption patterns. The design combined quantitative data collection, primarily via a widely administered questionnaire, with qualitative data gathered through semi-structured interviews. This combination was chosen to not only measure the various attitudes across demographics but also to explore the depth and context of individual experiences, particularly in educational settings.

To investigate the dynamics between digital habits and linguistic acquisition, this study proposes three central hypotheses. First, H1 hypothesizes that there is no significant relationship between the age of participants and their recognition rate of digital neologisms, suggesting that generational membership alone is not a primary driver of comprehension. Conversely, H2 suggests a positive correlation between the total daily time spent on social media and neologism recognition, emphasizing the role of exposure duration. Finally, H3 proposes that younger generations have positive attitudes towards neologisms and would like to have them included as part of the English lessons curricula.

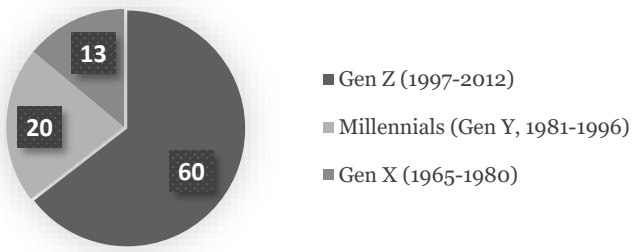
Participants and Sampling

The study involved three distinct groups (N=93) to represent the generational spectrum. Participant selection was conducted using convenience sampling. This non-probability sampling technique utilized groups and individuals readily accessible within the researchers' professional and educational networks, facilitating data collection across primary, secondary, and higher education contexts. Furthermore, a significant portion of the quantitative data was gathered through the online distribution of the questionnaire. By sharing the survey via social media platforms, the researcher reached a diverse range of participants within the target generational cohorts. This combination of targeted outreach and broad digital dissemination ensured a wide range of responses while remaining within the practical constraints of the study. The sample groups included participants in Croatia:

DOI: 10.55072/DN.2026.1.33

- Students: Higher education students from Year 2 and primary school students from Year 8, representing the Millennial (Gen Y) and Digital Native (Gen Z/Alpha) cohorts, respectively.
- Educators: Teachers from primary school and higher education levels, representing professionals responsible for curriculum delivery and linguistic norms.
- General Public: A general online sample intended to capture broader societal and generational attitudes outside of formal education settings, potentially including Gen X.

The chart below shows the number of participants in the study.



Number of participants in the study by age cohorts (Chart 1.)

The research was conducted in accordance with ethical standards for human subject research. All participants, or their legal guardians in the case of minors, provided informed consent prior to data collection. Participation was entirely voluntary, and respondents were informed of their right to withdraw at any stage without consequence. To ensure privacy, all data was anonymized during the analysis phase, and no personally identifiable information is linked to the published results.

Instruments

The data collection was conducted by using two primary instruments:

1. Online Questionnaire: Administered via Microsoft forms, this instrument gathered quantitative data on the participants' frequency of neologism use, their comprehension level of modelled „Netspeak" terms, and their attitudes toward the formal inclusion of these terms in the foreign language curriculum.
2. Semi-Structured Interviews: Conducted in person, the interviews were designed to elicit rich, qualitative data. The semi-structured format allowed researcher to explore specific themes related to scepticism, acceptance, and the perceived link between neologisms and cultural identity.

DOI: 10.55072/DN.2026.1.33

Procedure

The study proceeded in two stages, the first being questionnaire administration widely via online platforms to all target groups (higher education students, primary school students, teachers, and the public). This broad distribution aimed to gather a dataset for statistical analysis of generational differences. The second part was conducting semi-structured interviews within the classroom environment for the student cohorts (20 primary school students and 20 in higher education). This in-situ approach provided immediate context and allowed for the observation of non-verbal cues related to the perception and discussion of new linguistic items. All collected data were prepared for subsequent analysis to identify the attitudes towards neologism use inside and outside of the classroom.

Data Analysis

The analysis of data collected from the online questionnaire (N=93) and the semi-structured group interviews (N=64) provides empirical evidence supporting the existence of a generational gradient in the perception, adoption, and integration of internet neologisms in foreign language contexts.

The quantitative data assessed two primary metrics across the three generational cohorts (Gen X, Gen Y, Gen Z): comprehension rates of specific neologisms and attitude scores toward the formal inclusion of these terms in the FL curriculum.

Participants showed their understanding of 22 high-fluidity neologisms (e.g., terms for rapid emotional responses, social status, and Netspeak) common both in English classes and in real life situations. The list was made by watching a viral video of Royal Armories[20] where a tour guide uses neologisms to invite visitors to the museum. After watching, primary school students in grade 8 interpreted the words in a class discussion and gave their suggestions of new words to add in the questionnaire.

The questionnaire included basic demographic questions in the first part, comprehension questions for each given word in the second part, and open-ended question where the participants could give their opinion on using these neologisms in school context between younger generations. The final part of the questionnaire was to share which social media participants used and to share their phone usage statistics for that day (under phone Settings: Digital wellbeing and parental controls) as well as the most used app for that day. This ensured the data were objective and credible statistic of each person's smartphone use.

The participants could translate the term to Croatian or explain it in their own words in open-ended answer of the questionnaire. The collected answers were categorized in two possible comprehension explanations, either by corresponding traditional dictionary entry or a popular culture dictionary entry. For

[20] https://www.dailymotion.com/video/x95rbiu [02. 01. 2026.]

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this purpose, more dictionaries[21,22,23] were used. Other explanations that were not clear or the participants claimed that did not know the answer were categorized under "not recognized". The answers were coded so that popular culture recognition answers gained score of 1 and the others (traditional and standard meanings) were coded as 0. Mean comprehension scores are shown between the age cohorts in Table 1. The findings demonstrate that Gen Z participants possess the highest level of comprehension of the given neologisms, while Gen X group had the highest SD where some participants scored very high (over 95%), while others had the lowest scores (barely 17%). This suggests that in this generation, digital proficiency depends heavily on individual habits and time spent online rather than just age.

Generation	Participants (N)	Mean Recognition Rate (%)	Standard Deviation (SD)	Min (%)	Max (%)
Gen Z (1997–2012)	60	73.48%	18.05	34.78	100.00
Millennials (1981–1996)	20	70.87%	18.93	30.43	100.00
Gen X (1965–1980)	13	66.89%	27.59	17.39	95.65
Total	93	72.63%	19.64	17.39	100.00

Comprehension level of neologisms by age cohorts (Table 1.)

The One-way Analysis of Variance (ANOVA) test was performed to determine if the difference in Mean Recognition Rates among the three main generational groups (Gen X, Millennials, and Gen Z) is statistically significant. The result is shown in Table 2 below:

F-statistic	0.6348
p-value	0.5324

One-way Analysis of Variance test (ANOVA) values (Table 2.)

Since the *p*-value (0.5324) is much larger than the typical significance level of 0.05, we fail to reject the null hypothesis. There is no statistically significant difference in the mean neologism recognition rates between Gen X, Millennials (Gen Y), and Gen Z participants. Although Gen Z had a numerically higher average recognition rate, the observed differences could be due to random chance, suggesting that being a member in these specific generations, by itself, is not a strong predictor of recognition performance in this sample.

The list of the given words in the questionnaire is shown in the Table 3. below. For each meaning a number of participants (N) is displayed who interpreted the meaning according to standard or pop culture dictionaries. For words that participants did not know the answer or interpreted them wrongly, we counted in the same category (Do not know).

[21] Oxford Learners Dictionaries: https://www.oxfordlearnersdictionaries.com/ [02. 01. 2026.]
[22] Merriam Webster Dictionary: https://www.merriam-webster.com/ [02. 01. 2026.]
[23] Pop Culture Dictionary: https://www.dictionary.com/culture/pop-culture/ [02. 01. 2026.]

DOI: 10.55072/DN.2026.1.33

WORD	Oxford dictionary	Pop culture dictionary
BRAT Do not know: **N=30**	- a person, especially a child, who behaves badly - a spoiled/spoilt brat **N=35**	- someone who is confidently rebellious, unapologetically bold, and playfully defiant. - Charli XCX's album name (2024); a good friend **N=29**
BESTIE Correct: **N=93**	- a person's best friend	- a person's best friend.
SIGMA Do not know: **N=37**	- the 18th letter of the Greek alphabet (Σ, σ) **N=2**	- „Slay", „sigma" and „skibidi" were chosen as the top three slang words, which OUP said demonstrated the role of social media in influencing children's vocabulary[24][25]. - a highly successful and independent person **N=49**
NO CAP Do not know: **N=38**	/ **N=6**	- genuinely; truthfully **N=49**
TO SLAY Do not know: **N=16**	- to kill somebody/ something in a war or a fight; - (*informal*) to have a strong effect on somebody, especially to make them laugh **N=2**	- to impress strongly and favorably; overwhelm, especially by humor. - to make a strong favorable impression with. **N=70**
RIZZ Do not know: **N=40**	/	- attractiveness, charm, or skill in flirtation that allows one to easily attract romantic or sexual partners. - to flirt with / romantic appeal or charm **N=53**
BASED Do not know: **N=47**	- if one thing is based on another, it uses it or is developed from it **N=33**	- true to one's self or secure in one's beliefs regardless of what others think, especially when those beliefs fall outside of the mainstream. **N=7**
LIT Do not know: **N=28**	- past tense, past participle of light **N=5** - Literally, literature abbreviation **N=4**	- amazing; awesome; cool (used as a general term of approval). **N=54** - under the influence of liquor or narcotics; intoxicated **N=1**
CHAT Do not know: **N=9**	- to exchange messages with somebody on the internet, when you can see and reply to messages immediately and have a written conversation **N=50**	- a real-time conversation between two or more people over the internet or another computer network / online discussion in a chat room / *group of people spoken to in a livestream* ***N=33***
GOAT Do not know: **N=21**	- the best person ever in a particular field, especially a sport (the abbreviation for 'greatest of all time') - the animal **N =4**	- greatest of all time: (used to describe or refer to a person or thing that is considered to be the best ever in a particular field, category, etc., especially in sports) **N=68**
FOR REAL Do not know: **N=1**	- what somebody claims it is or serious	- actually, in reality, for sure, indeed, really, seriously **N=92**

[24] https://www.bbc.com/news/articles/cre8q4r38edo [02. 01. 2026.]
[25] https://www.independent.co.uk/news/uk/home-news/skibidi-sigma-slay-slang-meaning-b2684146.html [02. 01. 2026.]

DOI: 10.55072/DN.2026.1.33

AURA POINTS Do not know: **N=28**	- a feeling or particular quality that is very easy to notice and seems to surround a person or place	- the quality of being impressively cool, charming, or appealing - on social media, one is said to gain or lose (metaphorical) aura points when doing something impressive or embarrassing, respectively. **N=53**
VIBE Do not know: **N=1**	- a mood or an atmosphere produced by a particular person, thing or place	- a general feeling or sensation that someone gets or has about something. **N=93**
SKIBIDI Do not know: **N=34**	/ *respondents gave various explanations* **N=32**	- a nonsense Internet term connected to an absurdist YouTube show about evil toilets in 2023 and 2024 **N=28**
BRAIN ROT Do not know: **N=18**	/ *respondents gave explanations or examples* **N=4**	- brain rot refers to material of low or addictive quality, typically in online media, that preoccupies someone to the point it is said to affect mental functioning. Both the state of preoccupation and resulting mental degradation are known as brain rot. **N =72**
OHIO Do not know: **N=54**	- a north-eastern US state, also called the Buckeye State (and its people Buckeyes). The capital and largest city is Columbus. **N=5**	- used (mostly on the Internet) to describe something that is weird, awkward, cringeworthy, or otherwise undesirable or bad in some way. It can also be used to mean „boring" or „foolish." **N=29**
GYAT(T) Do not know: **N=54**	/	- an exclamation used to express excitement or admiration, especially for shapely buttocks. It's also used more generally (and not as an interjection) as slang for a nice behind. **N=28**
MEWING Do not know: **N=57**	- to mew - to make the soft high noise that a cat makes **N=7**	- is the practice, especially among young men, of placing one's tongue against the roof of the mouth to (supposedly) improve the structure and increase the attractiveness of one's jaw and facial structure (a practice that has not been found to be effective) **N=24**
SUS Do not know: **N=30**	- to sus - to realize something; - to understand the important things about somebody/something	- suspicious; suspect **N=63**
BRUH Do not know: **N=27**	/	- a male friend; used as a friendly way of addressing a man or boy; brother **N=35** - an interjection variously expressing surprise or dismay since at least the 2010s. **N=22**
NOOB (noob)	- a person who takes part in an activity, usually an online video game, but lacks relevant	- a newbie, especially a person who is new to an online community and whose online

DOI: 10.55072/DN.2026.1.33

Do not know: **N=16**	knowledge and therefore performs badly ***Negative connotations N=39***	participation and interactions display a lack of skill or knowledge. - a person who has recently started a particular activity **N=38**
CRINGE Do not know: **N=4**	- to feel very embarrassed and uncomfortable about something	- to feel very embarrassed or awkward; react with discomfort/so embarrassing, awkward, etc. as to cause one to cringe **N=84**
FLEX Do not know: **N=14**	- to bend, move or stretch an arm or a leg, or pull a muscle tight, especially in order to prepare for a physical activity **N=6**	- a boast or brag / to talk in a boastful or aggressive way; to make an ostentatious display of something: show off **N=69**
67 Do not know: **N=26**	/ *various explanations* **N=52**	- a nonsensical expression connected to a song and a basketball player - "Some say it means "so-so," especially since kids often pair the phrase with an up-and-down hand motion. Others argue it refers to a person who is tall, some think it stands for a basketball term, and so on. The bottom line is, the term "six seven" is nonsensical—which is sort of the point. As one tween TikToker put it under another video, "I think the point is that it makes no sense."[26]

The list of the given words (neologisms) in the questionnaire (Table 3.)

Table 4. shows the recognition rate for all the words in the questionnaire in three different age groups. Gen Z which was the largest group are expectedly the primary users of neologisms, and they scored the highest recognition rate. They are followed by Gen Y who showed a slightly lower, but competitive, recognition rate, whereas the oldest and the smallest age group, had the lowest recognition rate.

Generation	Participants	Words Recognized	Words Not Recognized	Recognition Rate (%)
Gen Z (1997-2012)	60	1014	366	73.48%
Millennials/Gen Y (1981-1996)	20	326	134	70.87%
Gen X (1965-1980)	13	200	99	66.89%

Recognition rates in three generations of participants (Table 4.)

To determine how difficult each individual word was for each generational group the mean recognition rate was calculated (percentage) for the top 5

[26] https://www.merriam-webster.com/slang/six-seven [02. 01. 2026.]

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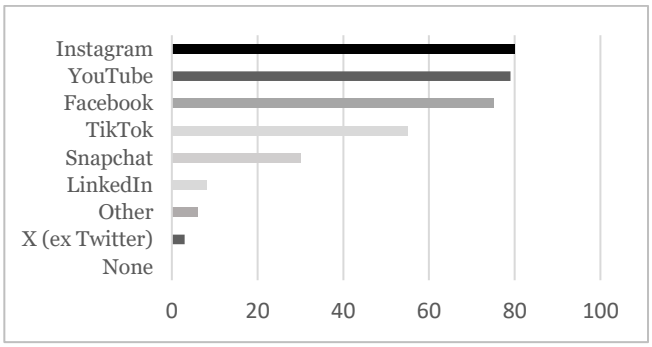
words by each generational group in Table 5. A higher percentage means the word was easier for that group.

Word	Gen X (1965-1980)	Millennials / Gen Y (1981-1996)	Gen Z (1997-2012)
BRAT	76.92%	90.00%	60.00%
BESTIES	100.00%	100.00%	100.00%
SIGMA	61.54%	80.00%	51.67%
NO CAP	46.15%	45.00%	58.33%
SLAY	69.23%	90.00%	83.33%

Recognition rates in three generations of participants (Table 5.)

The word 'BESTIES' shows a 100% recognition rate across all three generational groups suggesting it has been fully absorbed into mainstream language regardless of age. Generation-specific challenges were posed by the word 'SIGMA' which was significantly easier for Gen Y (80%) than for Gen Z. 'NO CAP' recognition was difficult across all groups, but Millennials (45%) found it the hardest. 'BRAT' was the most recognized word by Millennials (90%) but less so by Gen Z.

Next were analysed the internet habits of the participants. Chart 2 below highlights the most popular social networks participants responded they used. There is a clear dominance of visual and video-sharing platforms. The top tier is led by Instagram, which is followed very closely by YouTube and Facebook, as primary digital hubs for this sample. TikTok and Snapchat hold a significant mid-level position, often driven by high engagement among younger demographics who prefer short-form video content. LinkedIn and X (formerly Twitter) show considerably lower usage, indicating they are likely used for more specific professional or niche interests within this cohort. The sample displays a high level of digital integration since 0% of participants reported that they do not use any social media platform, signifying universal adoption of social networking tools among the surveyed group.



Social networks participants reported they used (Chart 2.)

By checking their smartphones, the participants entered the data about their phone use (Digital wellbeing) for that day when the questionnaire was

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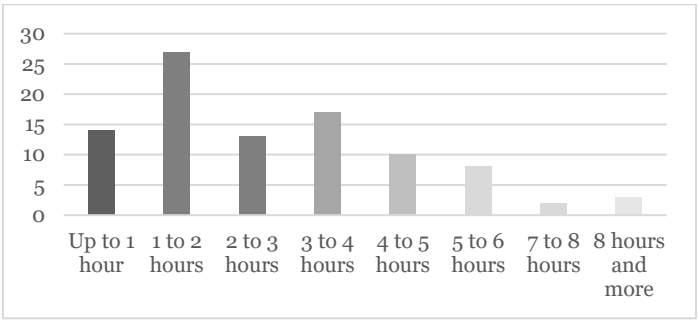
administered. Twenty of the participants took the questionnaire in the morning, and the rest of them in the afternoon. Chart 3 shows the time the participants spent on their phones on the selected day.



Number of participants and time spent on smartphone on the day of questionnaire admission (Chart 3.)

The majority of respondents (29%) spent between 1 and 2 hours on the day the questionnaire was administered, noting that the majority took the questionnaire in the afternoon. A significant number of individuals (18.3%) fall into the 3-to-4-hour category, suggesting a group of highly engaged users. Only 15.1% participants spend less than an hour (noting that 21.5% participants took the questionnaire in the morning), showing that for most of the sample, smartphone use is a multi-hour daily activity. Very few participants spent more than 7 hours using their phone, with only 5.4% people total in the highest time brackets (7-8 hours).

When asked which apps the participants utilized on the day of questionnaire administration, the majority responded with Instagram as the most frequently used app, cited by 28.0% of the participants. It was followed closely by TikTok, which was the primary app for 24.7% of the group. Facebook maintained a significant presence with 17.2% of users, while WhatsApp served as the main communication tool for 11.8%. Browsing via Chrome or Safari was the top activity for 4.3%, and YouTube was the primary choice for 2.2%. A small fraction of the sample (1.1%) primarily used a variety of other apps, including Tapatalk, Duolingo, ChatGPT, Discord, and Snapchat. Overall, the data confirms a significant preference for short-form, visually-driven platforms, as nearly 53% of the total daily usage was concentrated on Instagram and TikTok alone, reflecting a broader trend toward rapid, mobile-first content consumption.

Variable	Birth Year (Age)	Recognition Rate	Time Spent Using the Phone (Hours)
BirthYear (Age)	1	.131	.134
Recognition Rate	.131	1	.445*
Time Spent Online (Hours)	.134	.445*	1

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Pearson correlation matrix showing relationships between Age, Recognition Rate, and Time Spent Online (N=93) (Table 6.)

A Pearson correlation analysis was conducted to examine the relationships between participants' age, recognition rate, and time spent online (using smartphone). Results indicated a statistically significant moderate positive correlation between time spent online and recognition rate (r = 0.445, $p < .01$), suggesting that as daily digital exposure increases, the ability to recognize social media content also significantly improves. In contrast, the correlation between birth year and recognition rate (r = 0.131), as well as time spent online (r = 0.135), was found to be weak. This indicates that while active usage time is a meaningful predictor of recognition performance, the age of the participant within this sample did not have a statistically relevant impact on either their habits or their recognition abilities.

To compare if certain use of applications has higher recognition rate of neologisms in this study, mean recognition rate was calculated based on the apps that were used on the day of questionnaire administration in Table 7.

Primary Social Media Platform	Participants	Mean Recognition Rate (%)
Instagram	3	73.91%
TikTok	22	73.32%
Facebook	6	72.46%
YouTube	59	71.78%
Snapchat	3	66.67%

Recognition Rate of neologisms based on application used the most (N=93) (Table 7.)

Instagram and TikTok users show the highest recognition rates among the larger groups, indicating that these platforms, which are often sources of new slang and viral trends, are indeed the strongest correlates of high recognition when listed as the primary platform. YouTube remains the largest group by primary platform, but has a slightly lower mean recognition rate, suggesting that while widely used, it may be a more passive medium for language acquisition compared to platforms driven by short-form text and fast-moving trends (like Instagram and TikTok). Snapchat users showed the lowest recognition rate.

Furthermore, a qualitative analysis was conducted of the opinions posted in the questionnaire and in the interviews with students. Interviews were audio recorded and transcribed, and researcher made notes of non-verbal cues. The data reveals a generational gradient in how participants approach the formal use and inclusion of neologisms in the school setting. Findings from the semi-structured group interviews with eighth-grade primary school students and second-year higher education students revealed a high level of engagement and positive non-verbal responses toward the presented neologisms. Participants primarily identified the digital sphere as the main domain for neologism acquisition and use, specifically citing platforms such as TikTok and YouTube as primary sources. Primary school students prefer short forms and abbreviations (e.g., POV, Slay, No Cap) to maximize efficiency in written online communication.

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Interestingly, younger students noted that contemporary memes often lack specific semantic depth, leading to a decrease in their usage compared to older cohorts. Regarding social integration, participants confirmed that neologisms serve as a marker of 'in-group' identity, giving a sense of belonging within their peer groups. While these terms are occasionally used in interactions with parents or teachers, students demonstrated high linguistic awareness regarding register. They explicitly argued against integrating neologisms into the formal English curriculum, maintaining that teachers should preserve standard linguistic boundaries and that such informal vocabulary has no place in academic essays or formal styles.

The youngest cohort not only comprehends most digital terms but also shows the strongest positive attitude toward their use and integration. Their opinion is rooted in sociopragmatic necessity: for them, the terms are non-negotiable for participating in contemporary social and cultural life. The Millennial generation holds a mixed view, often seeing the value of digital terms for informal communication while remaining aware of the prescriptive academic standards. This conditional support suggests they are the „bridge" generation, capable of navigating both registers but prioritizing formal language in formal environments. Gen X, which primarily includes many current educators, demonstrates the strongest negative opinion. This cohort's resistance stems from a desire to protect traditional linguistic norms, viewing the rapidly changing digital lexicon as a threat to formal language standards and structure.

Results and Discussion

The findings of this study based on the analysis suggest a transition from age-based digital literacy to usage-based literacy:

H1 "There is no significant relationship between the age of participants and their recognition rate of digital neologisms" was confirmed. The correlation between birth year and recognition rate, as well as time spent online, was found to be weak. Another confirmation was a one-way analysis of variance (ANOVA) where no difference was found between age groups on neologism recognition rates that were statistically significant. This confirms that age is not relevant and does not prevent one from knowing these terms, meaning the exposure time to online content was a greater predictor of success than their age. The groups performed similarly enough that any differences could be just a random chance. The qualitative data highlights a certain linguistic register gap where students recognize the terms, but explicitly do not want them in formal education, viewing them as part of their social identity and peer groups.

H2 "There is a positive correlation between the total daily time spent on social media and neologism recognition" was also confirmed. Pearson correlation results indicated a statistically significant moderate positive correlation between time spent online and recognition rate ($r = 0.445$, $p < .01$), confirming that as daily digital exposure increases, the ability to recognize social media content also significantly improves in this sample.

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H3 "Younger generations have positive attitudes towards neologisms and would like to have them included as part of the English lessons curricula." was partly confirmed. Although the younger generations show positive attitudes and like using neologisms in their private time online as well as in peer group communication, they do not like to see these terms as part of their English lessons and some view it as intrusion into their private digital subculture.

While most participants across generations acknowledge the existence of internet slang, their attitude toward its classroom use remains divided. Gen X/Y might know fewer terms; the real challenge is their resistance to slang as „corruptive." Slang acts as a „password" for students; when teachers use it, the „password" changes. This explains why students might enjoy the fun aspect but remain sceptical of its academic utility.

Pedagogical implications

The integration of internet slang into the foreign language (FL) classroom should not be viewed as a replacement for standard language instruction, but as a critical extension of sociopragmatic competence. Students must learn to navigate the full spectrum of the English language, from formal academic registers to the digital vernacular they encounter daily.

Following the „Bridging Activities" framework,[27] educators can use student-selected digital texts (TikTok comments, viral memes, or YouTube descriptions) as primary sources for linguistic analysis. By analysing these „low-stakes" texts, students can explore how linguistic choices are tied to identity and social-communicative actions, effectively bridging the gap between their private digital lives and academic requirements.

The study highlights a clear generational divide in how slang is perceived. Consequently, pedagogical approaches must focus on register awareness. Students need to understand that using a term like „slay" or „brain rot" is a stylistic choice appropriate for peer-to-peer digital communication but often inappropriate for formal essays. Teaching students how to code-switch, the ability to toggle between standard and non-standard forms depending on context, is a vital 21st-century skill that prevents „slanguage" from negatively impacting formal writing skills.

Integrating current trends can serve as a significant motivator for teachers. As educators strive to remain relevant in a rapidly changing digital landscape, engaging with popular topics can transform the lesson-planning process into a more dynamic and fun experience. This professional curiosity helps bridge the generational gap and incorporate contemporary culture.

To facilitate this integration without overwhelming the instructor, modern digital repositories like Tolentino Teaching[28] provide ready-made worksheets and video prompts that leverage pop culture and social media aesthetics. Using resources that students find visually familiar, such as quotes presented as social

[27] THORNE, Stephen. L.—REINHARDT, Jonathon: *"Bridging Activities," New Media Literacies, and Advanced Foreign Language Proficiency*. CALICO Journal, 2008/3. (25.), 558–572.
[28] Tolentino Teaching Facebook page: https://www.facebook.com/tolentinoteaching/ [04. 01. 2026.]

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media posts or writing 67-word essay on the meaning of the word 67 can increase engagement in traditionally dull areas like grammar and conventions. Such tools allow teachers to maintain academic rigor while speaking the visual language of Gen Z and Gen Alpha.

Limitations and Suggestions for Future Research

Despite the insights gained, this study acknowledges several limitations. First, the high volatility of internet slang poses a challenge for longitudinal validity; the neologisms analysed are subject to rapid 'semantic bleaching' or social obsolescence.[29] Second, the geographic and demographic scope was limited to a specific regional context in Croatia, which may reflect localized pedagogical expectations rather than global trends. Third, the number of participants in different age groups was not equal, so results cannot be entirely reliable for all the cohorts.

Furthermore, regarding the partial confirmation of H3, the study encountered a complex 'intrusion' sentiment among younger participants. This suggests that while quantitative data captured the resistance to slang in curricula, a qualitative gap remains in understanding the social-psychological boundaries between private digital identity and formal educational spaces.[30] Finally, the reliance on self-reported data[31] for linguistic comprehension may introduce a subjective bias, as participants' perceptions of their own 'slang fluency' may not always align with practical communicative competence.

Future research should consider investigating how fast these neologisms become "cringe" and no longer used as trends change over time and what that means for curriculum design. It would be also interesting to identify why students feel an intrusion when parents or teachers use neologisms, possibly in focus groups. Since internet slang changes so fast, a study that tracks the lifecycle of 10 specific neologisms over a certain period would be interesting to see which ones move from slang to standard vocabulary and which ones die out. Research could also focus on teacher training programmes, investigating whether specific workshops on digital literacy actually change teachers' confidence levels in the classroom. Finally, comparing slang from TikTok vs. Reddit vs. Gaming platforms such as Discord could show different „dialects" across platforms and not view internet slang as one category.

Conclusion

This study concludes that while digital neologisms are essential for real-world communicative competence, their integration into the FL classroom must be handled with nuance. A differentiated pedagogical approach is recommended that acknowledges neologisms to build cultural literacy but strictly maintains standard linguistic boundaries for formal assessments to satisfy student expectations

[29] CRYSTAL, David: *Internet Linguistics*. Routledge, 2011. 26.
[30] ZAPPAVIGNA, Michele: *Enacting identity in microblogging: Theoretical and methodological perspectives*. 2012. 82.
[31] DÖRNYEI Zoltán: *Research Methods in Applied Linguistics*. Oxford University Press, 2007. 121.

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of academic rigor. This approach should also leverage the platforms students already use (Instagram/TikTok) as passive learning hubs. The goal of the FL teacher is not to become a "native speaker" of Gen Z slang, but to provide students with metalinguistic tools to analyse it.

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References

ALGEO, John: *Fifty Years Among the New Words: A Dictionary of Neologisms*, 1941–1991. Cambridge University Press, 1991.
BYKOVA, Tetiana Valeriivna: *Neologisms in internet discourse: Dynamics of linguistic innovation in digital communication*. Philological Periodical of Lviv, 2024/1. (16.), 1–6. DOI:10.32447/2663-340X-2024-16.4
CRYSTAL, David: *Internet Linguistics*. Routledge, 2011.
CRYSTAL, David: *Language and the Internet, 2nd ed.* Cambridge UP, Cambridge, 2006.
DÖRNYEI Zoltán: *Research Methods in Applied Linguistics*. Oxford University Press, 2007.
HALLIDAY, Michael Alexander Kirkwood–HASAN, Ruqaiya: *Language, context, and text: Aspects of language in a social-semiotic perspective.* Deakin University Press, 1985.
HYMES, Dell: *On communicative competence*. In: Pride J. B.–Holmes J. (Eds.): *Sociolinguistics: Selected readings*. Penguin, 1972.
LABOV, William: *Sociolinguistic Patterns*. University of Pennsylvania Press, 1972.
MARGARYAN et al.: *Are digital natives a myth or reality? University students' use of digital technologies*. Computers & Education, 2011/2. (56.), 429–440.
NEWMARK, Peter: *A textbook of translation*. Prentice-Hall, 1988.
OROLIĆ, Patricia: *English neologisms in social media: A linguistic analysis*. Master's thesis, Josip Juraj Strossmayer University of Osijek, 2023.
ORTIZ COLINA, Raquel: *English Neologisms in Modern Times*. 2021. https://addi.ehu.es/bitstream/handle/10810/55740/TFG_Ortiz.pdf?sequence=
PAIZULLAYEV, Ye. N.–SAK, S. T.: *The influence of social networks on the word formation of neologisms in the English language (on the example of Facebook, Twitter and Instagram)*. Philological Sciences, 2024/1. (72.), 15–20. DOI:10.48371/PHILS.2024.72.1.015
PASECHNAYA, Lyudmila A.–SHCHERBINA, Valentina E.: *Internet neologizms as youth slang supplementation: The main ways of formation*. European Proceedings of Social and Behavioural Sciences. 2020/83. 535–542.
PRENSKY, Marc: *Digital natives, digital immigrants part 1*. On the Horizon, 5. 2001/5. (9.), 1–6. DOI:10.1108/10748120110424816
SANDYHA et al.: *Selfie neologisms in social networks*. Amazonia Investiga, 2022/11. (49.), 126–135. DOI: 10.34069/AI/2022.49.01.1
ŠETKA ČILIĆ, Ivona–ILIĆ PLAUC, Jelena: *Today's usage of neologisms in social media communication*. DHS: Društvene i humanističke studije, 2021/1. (14.), 115–139. DOI:10.51558/2490-3647.2021.6.1.115
THORNE, Stephen. L.–REINHARDT, Jonathon: *"Bridging Activities," New Media Literacies, and Advanced Foreign Language Proficiency*. CALICO Journal, 2008/3. (25.), 558–572.
ZAPPAVIGNA, Michele: *Enacting identity in microblogging: Theoretical and methodological perspectives*. 2012.

DOI: 10.55072/DN.2026.1.33

Documents:

https://www.bbc.com/news/articles/cre8q4r38edo
https://www.britishcouncil.org/voices-magazine/skibidi-what-85-teachers-admit-they-have-look-student-slang
https://www.dailymotion.com/video/x95rbiu
https://www.dictionary.com/articles/word-of-the-year-2025
https://www.independent.co.uk/news/uk/home-news/skibidi-sigma-slay-slang-meaning-b2684146.html
https://www.merriam-webster.com/slang/six-seven
Merriam Webster Dictionary: https://www.merriam-webster.com/
Oxford Learners Dictionaries: https://www.oxfordlearnersdictionaries.com/
Pop Culture Dictionary: https://www.dictionary.com/culture/pop-culture/
Tolentino Teaching: https://www.facebook.com/tolentinoteaching/

Absztrakt

A LEXIKON „LEGYŐZÉSE“: GENERÁCIÓS MEGKÖZELÍTÉSEK ÉS PEDAGÓGIAI MEGKÖZELÍTÉSEK AZ INTERNETES SZLENGRŐL AZ IDEGENNYELV-OKTATÁSBAN

A digitális kommunikáció számos neologizmust hozott létre, mind az internetes beszédben, mind a modern idegen nyelvi osztályban. Ez a tanulmány az újonnan megalkotott, lexikális elemek szerepének és megítélésének elemzését mutatja be különböző korcsoportok közötti kérdőív kitöltésével és diákok kis csoportjainak megkérdezésével. Megvizsgáljuk a különböző generációk közötti eltérő attitűdöket: X, Y (Y generáció) és Z. Az eredmények feltárják a Netspeak modellezett új szavainak megértésének szintjét, valamint azok befogadását – a szkepticizmustól a zökkenőmentes integrációig. A tanulmány azt is értékeli, hogy milyen pedagógiai következményekkel jár a neologizmusok beépítése a tanításba a kommunikációs kompetencia és a kulturális műveltség javítása érdekében. Összefoglalva, a digitális korban a hatékony idegennyelv-oktatás rugalmas, kulturálisan érzékeny pedagógiát igényel, amely egyensúlyt teremt a formális nyelvi normák és az internetes beszéd dinamikus valósága között, kihasználva a technológiát az adaptív és motiváló tanulási környezetek megteremtésére.

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Smajić, Dubravka–Vodopija, Irena

ON THE NORMATIVE FEATURES OF CROATIAN ADVERTISING DISCOURSE

Introduction

Advertising, mass media, and consumer society are among the typical concepts that impose themselves in discussions of contemporary society. Consumption has long since become a necessity of everyday social life, and living outside a consumer society has, over time, become almost impossible. Industrialisation and the onset of mass commodity production required more effective ways of placing products on the market, which in turn created a need for higher-quality advertising. This is how advertising emerged. It has since undergone a long development, from text through visual motifs to the multimedia message, shaped by developments in industry and technology.

Over the past three decades, we have witnessed a new, contemporary revolution – the digital one. In such a highly technologically developed era, A. Gjuran-Coha and Lj. Pavlović note that advertising has become "part of one of the most widespread discourses of our civilisation".[1] The present-day omnipresence of advertising discourse around us draws attention to the fact that we are exposed to the written word more than ever before. On the other hand, it has for years been argued that reading is "no longer in fashion". Teaching methodologists, as well as classroom practice itself, have long emphasised that only reading good writers genuinely enriches and cultivates a young person's spoken and written expression. There are growing voices of concern that, due to the excessive use of digital media and a reduced number of books read per year, the culture of spoken and written expression is being neglected.

Advertising discourse has been extensively studied to date, and much has been written about its features and messages. Advertising discourse encompasses advertisements and advertising notices. Among these (and other) near-synonymous terms used in Croatian, philological scholars have opted for the term *reklama*. In this context, D. Stolac and A. Vlastelić also adopt the term *reklama*, which they describe as "the result of the advertising process".[2] The same term is accepted by L. Hudeček and M. Mihaljević, who state that "*reklama* may be defined as the creation or communication of ideas about products with the aim of encouraging consumers to purchase them".[3] K. Bagić rightly concludes: "Advertising is such a dynamic phenomenon that any claim about it becomes outdated

[1] URL 2: GJURAN-COHA, Anamarij–PAVLOVIĆ, Ljiljana: *Elementi reklamne retorike u hrvatskim reklamnim porukama*. Fluminensia, 2009. /1. 41–54. http://hrcak.srce.hr/43474 19.09.2025.] (Hereafter: GJURAN-COHA–PAVLOVIĆ, 2009.)

[2] STOLAC, Dijana–VLASTELIĆ, Anastazija: *Jezik reklama*. Hrvatska sveučilišna naklada d.o.o., Filozofski fakultet Sveučilišta u Rijeci, Rijeka, 2014. (Hereafter: STOLAC–VLASTELIĆ, 2014.)
HUDEČEK, Lana–MIHALJEVIĆ, Milica: *Jezik medija*. Hrvatska sveučilišna naklada d. o. o., Zagreb, 2009. 179. (Hereafter: HUDEČEK–MIHALJEVIĆ, 2009.)

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as soon as it is uttered".[4] Regarding the global omnipresence of advertising discourse, the same author notes: "According to some assumptions, the contemporary individual – at home, at work, and in public space – is confronted with around ten thousand advertisements in the course of a day (...)".[5] Consequently, advertising texts gradually enter the reader's field of attention and, by virtue of their sheer number, influence the mother tongue. While printed literary texts undergo proofreading, this is not always the case with advertising texts (or at least it appears not to be), which prompted the research described in this paper. Bagić highlights a thought expressed by McLuhan as early as 1951: "Today, the treasuries of eloquence are no longer classrooms, nor the classics, but advertising agencies".[6]

Widespread advertisements, seeking to encourage consumers to make a purchase, address targeted groups: adults, children, older people, animal lovers, vegetarians, and others. The decoding of an advertising message also depends on geographical context (a vivid example is the glass Coca-Cola bottle in the film *The Gods Must Be Crazy*) and on the time when an advertisement was created (younger audiences are certainly unfamiliar with the advertisement *Nemoj misliti na torticu*, even though *tortica* is still produced, and the older generation might likewise not know what *Milica pomada* is or what *Darmol* refers to in the advertisement *Dok ti spavaš, Darmol radi*). Contemporary advertisements avoid earlier advertising stereotypes that, for example, addressed women as housewives: *Nema čišće bjeline od Radion bjeline, Radion – pere sam*, *Svaka žena voli Elida Favorit*. All examples are provided in the original language. The textual component of advertisements for, for instance, cleaning agents, washing, or cooking was accompanied by the image of a female figure. Advertisements reflect not only the products being offered and the manner in which they are presented, but also the worldview of a particular period: *Zrcalo vam kaže: "Poljepšati će vas Elida!"* Advertisements did not merely instruct women on how to be diligent, or even professional, housewives, but also contributed to the creation of different female identities that supported different social statuses.[7]

Advertising notices can be found on billboards, advertising panels, advertising columns, on advertising vehicles, on the exterior parts of public transport vehicles as well as inside them, on façades or side walls of buildings; advertisements sometimes cover dilapidated buildings or those undergoing renovation, and they also appear in shop windows or at shop entrances. Advertisements for particular products are on occasion carried by so-called "sandwich board people" or by groups wearing T-shirts or caps bearing the name of the advertised company or product. At times, a small aircraft can also be seen towing a long banner displaying an advertisement. Certainly, not all possible locations in which advertising may appear have been exhausted, especially in today's digital world, as we are inundated with advertising messages the moment we access the internet–advertisements are present on social media, mobile applications, and in email.

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[4] BAGIĆ, Krešimir: *Stilistika reklame*. Ljevak, Zagreb, 2025. 18. (Hereafter: BAGIĆ, 2025.)
[5] BAGIĆ, 2025. 24.
[6] Ibid. 41.
[7] MIKLOŠEVIĆ, Željka*: Ideološka konstrukcija žene u međuratnom razdoblju: reklamni oglasi tvornice Georg Schicht*. Osječki zbornik, 30, Muzej Slavonije, Osijek, 2011. 227–238.

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Advertisements have a long history and are present throughout the world; consequently, interest in their study has also emerged. The power of advertising is examined by experts from various fields, and the authors Stolac and Vlastelić, who have studied the language of advertising in greater depth, emphasise that "the linguistic component of advertising should be examined from multiple perspectives: sociolinguistic, psycholinguistic, pragmalinguistic, and cognitive-linguistic" perspectives.[8]

"The language of advertising cannot be unequivocally and fully subsumed under any single functional style (...) and freedom is greatest in the language of advertising".[9] It is therefore necessary to distinguish between authorial creative freedom, which represents a deliberate deviation from the norm, and unintentional linguistic errors in the advertising corpus that result from insufficient knowledge of the standard language.

That advertising is powerful is also evidenced by the fact that certain words, expressions, exclamations, or phrases from colloquial style *(svašta nešto*), anglicisms (*wow*), and even nonsense such as *six seven* (6, 7) have found their way into Croatian advertising texts and then spread at lightning speed, entering everyday speech. This raises the question of whether the recipient will accept a fashionable expression, a piece of nonsense, an anglicism, or even a linguistic inaccuracy without checking whether the word is used correctly, since today almost no one does. The analogy may not be entirely appropriate, but the saying about a repeatedly told lie that eventually becomes the truth leads to the conclusion that a repeated linguistic error gradually comes to be perceived as something correct and proper (e.g. *losion kojega koristimo* instead of *losion kojim se koristimo*, *slijedeći proizvodi* instead of *sljedeći proizvodi*, etc.). Advertising is a powerful tool that could help raise linguistic awareness.

In the retail chain catalogues analysed in this paper, there is no scope for free authorial creativity in advertising, as the advertisements are reduced to product features and basic product information and are intended to inform a broad range of consumers. Consequently, this is not the type of advertising discourse in which creativity is desirable, nor one in which deviations from the language norm are permitted for such purposes; rather, these are catalogues in which adherence to the standard language norm is assumed and expected.

Advertising has taken over the world, and already a hundred years ago, André Breton, in his *Manifesto of Surrealism*, perceptively anticipated their permanence: "... I claimed that the world would not end with a good book but with a beautiful advertisement for hell or heaven".[10]

[8] STOLAC–VLASTELIĆ, 2014.
[9] HUDEČEK–MIHALJEVIĆ, 2009. 186.
[10] BAGIĆ, 2025. 87.

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Language Norm, Public Language, and Linguistic Errors

The norm determines the acceptability of linguistic units in the standard language, as well as the acceptability of linguistic units within the functional styles of the standard language. It encompasses language at all its levels; therefore, we distinguish between phonological, morphological, word-formation, syntactic, lexical, orthographic, and accentual norms.[11] Kryzan-Stanojević[12] points out that the norm can be defined in two ways. One definition reveals traces of prescriptivism and regulation, according to which the norm is understood as what is accepted by educated speakers of a given language. The other definition understands the norm as an established principle accepted by the majority, i.e., a set of rules that are accepted and subsequently codified to enable the functioning of the language.

According to Težak and Babić,[13] a normed language is the literary language, i.e., a language defined in written form and found in books. Such a language serves to facilitate communication and to overcome difficulties among speakers with different speech habits. Every nation develops such a language to serve as a reliable means of communication among all its members. Since the spoken form of the literary language is equally important, attempts have been made to replace the term literary language with the broader term standard language. Nevertheless, the retention of the term literary language is generally accepted, and both terms–literary language and standard language–often coexist in use to denote the normed language.

In everyday, ordinary, informal communication, we do not use a strictly normed language but rather a much more relaxed, conversational variety.[14] In contrast to the private sphere, where conversational language is used, Dubravko Škiljan[15] discusses communicative acts realised in the public sphere and thus constituting the context of public communication. For such communication in the public domain, specific appropriate codes, forms, and message contents are selected, as well as specific communication channels. This is the so-called public language, as it is realised in public spaces, which, as Škiljan notes, comprise four discourses: the discourse of informational media, that is, public media, the discourse of science, the discourse of education, and religious discourse. Škiljan thus places first the linguistic discourse realised through the journalistic functional style, to which, according to some authors, advertising discourse also belongs, as has already been emphasised several times in this paper. It can therefore be concluded that advertising discourse, as part of public language, necessarily needs to be realised in a normed language. All the above also explains why this paper does not address the problematisation of the status of the norm in

[11] FRANČIĆ, Anđela–HUDEČEK, Lana–MIHALJEVIĆ, Milica: *Normativnost i višefunkcionalnost u hrvatskome standardnom jeziku*. Hrvatska sveučilišna naklada, Zagreb, 2006, 37.
[12] KRYZAN-STANOJEVIĆ, Barbara (ed.): *Jezična politika: Između norme i jezičnog liberalizma*. Srednja Europa, Zagreb, 2016.
[13] TEŽAK, Stjepko–BABIĆ, Stjepan: *Gramatika hrvatskoga jezika: Priručnik za osnovno jezično obrazovanje*. Školska knjiga, Zagreb, 2005. (Hereafter: TEŽAK– BABIĆ, 2005.)
[14] Ibid.
[15] ŠKILJAN, Dubravko: *Javni jezik. Antibarbarus*, Zagreb, 2000.

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the Croatian language, as some linguists today engage in questioning the norm[16] in their work, which could otherwise potentially be used to explain the numerous normative deviations found in the language of advertising.

The Croatian Language Act, in Article 11, paragraph 3, also formally confirms that the language of advertising should be a normed language: "The Croatian standard language is the means of informing the public and consumers about products and services on the market in Croatia."[17] It should further be added that the Consumer Protection Act (Articles 13 and 18) stipulates that product information must be truthful and written clearly, visibly, and legibly "in the Croatian language and the Latin script", while not excluding the use of other languages.[18]

In describing textual errors in pupils' written assignments, Dragutin Rosandić states that a textual error is considered to be any violation of the norm of the literary language and any deviation from it in stylistically unmarked, that is, non-artistic expression.[19] A violation of the norm refers to any departure from linguistic rules and norms that are customary or accepted within a given linguistic community. Deviations may occur in various linguistic domains, such as orthography, grammar, syntax, lexis, style, and punctuation, and may also be the result of unconscious errors, creative choices, or deliberate deviations. Violations of the norm may lead to misunderstanding and a lack of textual clarity. Such errors can be divided into two general groups: linguistic errors and non-linguistic errors.

Linguistic errors are deviations from linguistic rules and norms that occur in speech or writing. They arise when the author of a text does not adhere to the use of the normed language. According to Rosandić,[20] linguistic errors are divided into grammatical, orthographic, lexical, and stylistic errors.

Grammatical errors arise as a result of violations of the grammatical norm of the standard language. They may be morphological, word-formation-related, or syntactic. Morphological errors concern word forms and word classes, word-formation errors relate to the principles of word formation, while syntactic errors concern the principles governing the linking of linguistic units into phrases, sentences, and coherent texts.[21] Word-formation errors are most often associated with the use of loanwords. Syntactic errors most commonly concern the position of enclitics in a sentence, word order (sentence constituents), non-

[16] For example, Mate Kapović in *Jezični savjetnik za 21. stoljeće* (2024), Mate Kapović, Anđel Starčević, and Daliborka Sarić in *Jezik je svejedno* (2019), or Branimir Belaj in *Kognitivna lingvistika i hrvatski je*zik (2023).
[17] GJURAN-COHA–PAVLOVIĆ, 2009.
[18] HUDEČEK, Lana–MATKOVIĆ, Maja–ĆUTUK, Igor: *Jezični priručnik Coca-Cole HBC Hrvatska*. Coca-Cola HBC Hrvatska, Zagreb, 2011. http://www.gfos.unios.hr/images/jezicni-prirucnik-coca-cole-hbc-hrvatska-02-2012-1.pdf [26.07.2024.] (Hereafter: HUDEČEK–MATKOVIĆ–ĆUTUK, 2011.)
[19] ROSANDIĆ, Dragutin: *Od slova do teksta i metateksta*. Profil, Zagreb, 2002, 97. (Hereafter: ROSANDIĆ, 2002.)
[20] Ibid. 98.
[21] Ibid.

DOI: 10.55072/DN.2026.1.53

normative use of tense relations, pleonastic word groups, the use of synonymous expressions and constructions, and illogical sentence linkage.[22]
Grammatical errors are the result of insufficient knowledge of the grammatical structure of the contemporary standard language.[23] Knowledge of the language norm, however, is more important than is usually assumed.

Orthographic errors arise as a result of violations of the orthographic norm. According to Rosandić, a distinction is made between so-called pure orthographic errors and errors that are phonetically and grammatically conditioned. These are combined errors. Pure orthographic errors are associated with orthographic rules, for example, those governing the use of upper- and lower-case letters, the adaptation of foreign words, compound and separate spelling, syllabification, the writing of abbreviations, punctuation, and so forth.[24] This is also confirmed by Rišner and Glušac,[25] who, by comparing Croatian advertising notices from the earliest examples to those of the 21st century, identified deviations from the orthographic norm in the use of upper- and lower-case letters as well as in compound and separate spelling. The authors conclude that proper names are often written with a lower-case initial letter, but also conversely with an upper-case initial letter.

Phonetically and grammatically conditioned orthographic errors are most closely associated with rules governing phonological changes. In this paper, they are referred to as phonological errors.

Lexical errors arise from violations of the lexical norm of the contemporary standard language. The lexical norm is particularly evident within each functional style; thus, violations of the lexical norm occur when lexis from different functional styles is mixed. Rosandić[26] points out that the most frequent lexical errors result from the non-functional use of words and terms, the mixing of lexis from different functional styles, and the unmotivated use of phraseological units. Rišner and Glušac[27] further note that compounds which do not conform to established patterns of the Croatian language are appearing with increasing frequency in advertising.

Stylistic errors arise from violations of the stylistic norm, which requires adherence to the "unity of style". This means that a text is shaped by the norms of each individual functional style.[28] According to Rosandić, stylistic errors may be classified into two groups: lexico-stylistic errors, which relate to lexis, and grammatical-stylistic errors, which relate to grammar.

For the purposes of this paper, stylistic errors were not examined, as they occurred in an almost negligible number and therefore remained entirely marginal.

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[22] Ibid. 98–99.
[23] Ibid. 99.
[24] ROSANDIĆ, 2002.
[25] RIŠNER, Vlasta–GLUŠAC, Maja: *Kroz mijene i dodire publicističkoga stila*. Filozofski fakultet Sveučilišta J. J. Strossmayera u Osijeku, Osijek, 2011. (Hereafter: RIŠNER– GLUŠAC, 2011.)
[26] ROSANDIĆ, 2002.
[27] RIŠNER–GLUŠAC, 2011.
[28] ROSANDIĆ, 2002. 101.

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Functional-Style Affiliation of Advertising Catalogues

A dictionary defines a catalogue in the advertising sense as "a printed, illustrated promotional medium for offering goods and services".[29] In addition to its printed form, an advertising catalogue usually also has a digital form, that is, an online version. It presents products, discounts, and promotional sales. Advertising catalogues include photographs of products, their prices and descriptions, information on discounts, the duration of promotional offers, as well as contact details and addresses of retail outlets.

Although advertising cannot be said to belong fully to any single functional style, among all of them, advertising messages are closest to the journalistic style. This is reflected in some of the basic features of that style, such as the use of language aligned with the language norm, which also applies to the language of the advertising catalogues examined for this paper. Other shared characteristics include clarity and simplicity, while the language of certain advertisements is also marked by literary elements characteristic of the journalistic style—vividness, metaphorical expression, rhythmicity, and musicality of expression. Thus, for example, advertising leaflets contain messages such as *Always with you!*, *What makes you happy…*, *Smart shopping!, Always on offer!* (or *Always in action!*). The connection between the language of advertising messages and the journalistic style also lies in their shared aim—to influence the reader, either by promoting products or services (advertising messages) or by informing or shaping opinions (journalistic style).

From all of the above, it can be concluded that advertising discourse largely belongs to the journalistic style, but not entirely, as it does not contain journalese, which is otherwise a defining feature of the journalistic style.

The language of advertising messages may also exhibit features of other functional styles. This is evident, for example, in some of the main characteristics of the administrative functional style, such as objectivity, simplicity, conciseness, clarity, and alignment with the norms of the Croatian standard language.[30] It is these features that characterise the language of advertising catalogues, where they serve to inform consumers and persuade them to take a particular action, most often the purchase of a specific product. Among the authors who classify advertising messages within the administrative-business style is Josip Silić,[31] who, in his overview of this style, includes advertising.[32] Furthermore, Silić and Pranjković state that the administrative-business style "encompasses the language of administration, industry, trade, politics, the military, and advertising (emphasis added by D. S. and I. V.)."[33] S. Težak and S. Babić note that the administrative-business style is used for expression "in official correspondence, administrative acts, regulations, decisions, laws, rulebooks, provisions, certificates,

[29] JOJIĆ, Ljiljana (ed.): *Veliki rječnik hrvatskoga standardnog jezika*. Školska knjiga, Zagreb, 2015.
[30] HUDEČEK–MATKOVIĆ–ĆUTUK, 2011. 11.
[31] SILIĆ, Josip: *Funkcionalni stilovi hrvatskoga jezika*. Disput, Zagreb, 2006.
[32] Silić speaks of hyperbolised words "with which commerce and its advocate, advertising, inundate us" (2006. 72).
[33] SILIĆ, Josip–PRANJKOVIĆ, Ivo: *Gramatika hrvatskoga jezika za gimnazije i visoka učilišta*. Školska knjiga, Zagreb, 2007. 379.

DOI: 10.55072/DN.2026.1.53

invoices, orders, requests, appeals, advertisements (emphasis added by D. S. and I. V.), official curricula vitae, reports, and the like".[34]

However, some authors do not agree with the unambiguous classification of advertising within the administrative-business style. Thus, M. Mihaljević[35] lists the characteristics of the administrative-business functional style as follows: strictly defined norms, simplicity, clarity, clichéd expression, unambiguity, impoverished lexis, and lexical unification, and concludes that advertising unquestionably does not possess all of these features and therefore cannot belong to this style. The inclusion of advertising within the administrative-business style is also problematised by Bjelobrk, who states: "Since the advertising message, conditionally speaking, developed from notices that correspond to the administrative-business style, it is possible to indicate the closeness of the advertising message to this style, while its affiliation with it remains questionable".[36] Bjelobrk further concludes that the advertising message also corresponds to the literary-artistic style due to the use of various stylistic figures; however, it is still not possible to establish the complete affiliation of advertising with that style.

The scientific functional style is characterised by rationality, clarity, a striving for accuracy, and rigour. These features can also be applied in advertising in order to enhance credibility and persuasiveness and to gain consumers' trust, particularly when promoting products based on technology, medicine, scientific research, or innovation. In advertising, the scientific style is realised using scientific data and statistics, references to research, specialised and technical terminology, internationalisms, and visual representations and graphs. The use of scientific data and a clear organisation of information help create the impression that a product or service is reliable, effective, and based on verified evidence, which can significantly influence consumers' decisions. The fundamental difference between the scientific style and advertising lies in objectivity.

The most widespread functional style in everyday life is the conversational style. It is realised not only in spoken communication but also in written form: in letters, notes, as well as in communication in contemporary media. Elements of the conversational style can also be found in most advertising messages, such as slang expressions and dialectal forms, and, in more recent times in particular, loanwords or foreign words, for example: *Happy vikend, Tips & tricks, donut, to go,* etc. Advertising frequently employs loanwords to achieve a particular effect; for instance, English words such as luxury, exclusive, premium, or trend may have an appealing sound effect, but at the same time, they displace Croatian words that are suitable equivalents of foreign words and should take precedence. Ham et al. (2014) note that the present era is marked by computers and computer

[34] TEŽAK–BABIĆ, 2005. 34.
[35] MIHALJEVIĆ, Milica: *Funkcionalni stilovi hrvatskoga (standardnog) jezika (s posebnim obzirom na znanstveno-popularni i personalni podstil).* Rasprave Instituta za hrvatski jezik i jezikoslovlje, 2002/1. 325–343. http://hrcak.srce.hr/index.php?show=clanak&id_clanak_jezik=102727. [19.09.2025.]
[36] BJELOBRK, Vladimir: *Kojemu funkcionalnom stilu pripadaju reklame?*. Hrvatistika, 2009/3. 69. http://hrcak.srce.hr/index.php?show=clanak&id_clanak_jezik=104398. [19.09.2025.] (Hereafter: BJELOBRK, 2009.)

DOI: 10.55072/DN.2026.1.53

technology, which primarily come from the English-speaking world, and therefore technological innovations often bear English names. This gives rise to a dilemma–whether to adopt the innovation as such or to opt for an already established or a newly created Croatian word. The dilemma is easily resolved if an appropriate Croatian equivalent exists for the English word. If no such equivalent exists, a new one should be created. However, advertising cannot be attributed to the conversational style either, due to its frequent occurrence in written language and, even more so, because of other features that do not belong to the conversational style. For example, one of the basic characteristics of the conversational style is spontaneity, a feature that cannot in any way be associated with advertising, as it is completely contrary to its nature. Bjelobrk therefore concludes that "advertising messages partially adopt certain features of all functional styles and have thus acquired characteristics of multimedia discourse".[37] M. Mihaljević and L. Hudeček[38] unequivocally conclude that the language of advertising cannot, in fact, be unambiguously and fully classified within any single functional style.

Speaking of contemporary didactics, Lazzarich[39] notes that it is better suited to the information-based knowledge society. Educational didactics and approaches to learning in an information society are increasingly oriented towards active interaction with information, the application of technology, and the development of critical thinking, which can also be applied to the ways in which advertising communicates with contemporary consumers. With the help of digital media and technologies, advertising can today reach its target audience rapidly, as with online advertisements, video advertisements on YouTube and TikTok, or targeted advertisements on social media. Consumers today receive personalised messages based on their online interests.

The language advice manual *Govorimo hrvatski*[40] (Dulčić, ed. 1997) encourages reflection on and care for the Croatian language, which, like any other language, is subject to constant change; however, such change needs to be guided in order to preserve its authenticity and diversity. S. Težak[41] (1999) shares this view, emphasising that attention should be paid to the vulnerability of valid Croatian words in their collision with aggressive loanwords, which push not just one but an entire range of Croatian words into oblivion or at least to the very margins of use. Editor M. Dulčić and linguist S. Težak warn of the danger posed by the excessive importation of foreign words into all functional styles, particularly the journalistic and conversational styles, as this ultimately threatens the linguistic richness and diversity of contemporary Croatian–a concern that is especially relevant in the context of advertising leaflets. Although loanwords may be useful in creating a modern and global impression, their use needs to be balanced with the preservation and promotion of the Croatian language and its richness.

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[37] Ibid. 73.
[38] HUDEČEK–MIHALJEVIĆ, 2009.
[39] LAZZARICH, Marinko: *Metodika Hrvatskoga jezika u razrednoj nastavi: Knjiga prva*. Učiteljski fakultet u Rijeci, Rijeka, 2017.
[40] DULČIĆ, Mihovil (ed.): *Govorimo hrvatski: Jezični savjeti*. Hrvatski radio, Naklada Naprijed, Zagreb, 1997.
[41] TEŽAK, Stjepko: *Hrvatski naš (ne)zaboravljeni*. Tipex, Zagreb, 1999.

DOI: 10.55072/DN.2026.1.53

Advertising and Media

V. Majdenić[42] defines media as carriers of messages, that is, as means by which messages are communicated orally or in writing in an indirect manner. Media are thus various channels that enable the transmission of information to a wider public. When it comes to advertising, media play a key role in the dissemination and transmission of promotional messages. Defining advertising, D. Stolac and A. Vlastelić[43] state that an advertising message is a text that, either independently or in conjunction with images and/or sound, conveys information about a product or service. The aim of advertising is to inform potential consumers about products or services. As has already been pointed out earlier in this paper, we are today surrounded by advertising in both traditional and digital media. Exposure to advertising is particularly strong on social media.

To fulfil its specific purposes, advertising makes use of a specialised language. A. Peti-Stanić and M.-M. Stanojević[44] explore more deeply the relationship between language and the fundamental role of advertising: „Since advertisements are intended for the public and are disseminated through the media, they belong to media language. Advertising content in the media does not serve only to persuade and to short-term induce consumers to purchase individual products. In the case of advertising leaflets, one can most clearly observe the characteristics of contemporary marketing strategies aimed at building a positive image of a company in the public sphere, establishing intensive contact, and fostering a lasting, positive relationship between the company and the consumer. Through such strategies, consumers are encouraged to become permanent and long-term clients. Advertising sentences are usually short, striking, and characterised by a distinctive rhythm. The aim of every advertisement is to associate a product with the positive values of a given society and culture, that is, with everything considered good and desirable in a particular society. While it is important to encourage consumers to purchase the advertised product or service, in recent times, an even greater goal has been to establish a long-term and high-quality relationship of trust with the customer.“[45] The purpose of every advertisement is to be noticed; the message must immediately catch the eye or ear. It is therefore understandable that the fundamental tendency of advertising messages is textual condensation. This means striving to convey the maximum amount of content through the shortest and most concise possible expression–or, more briefly, to prompt the recipient to wish to become a consumer using as few words as possible. This requires an exceptionally high level of creativity and linguistic competence, as well as effort and competence in other

[42] MAJDENIĆ, Valentina: *Mediji, tekst, kultura*. Ljevak, Zagreb, 2019. 20.
[43] STOLAC, Dijana–VLASTELIĆ, Anastazija: *Jezik reklama*. Hrvatska sveučilišna naklada d.o.o., Filozofski fakultet Sveučilišta u Rijeci, Rijeka, 2014. Much has been written on advertising and its language in the Croatian context; however, for reasons of brevity, this paper focuses on the book *Jezik reklame* by the said authors, as it provides a comprehensive overview of contemporary scholarly insights into the topic. (Hereafter: STOLAC–VLASTELIĆ, 2014.)
[44] PETI-STANTIĆ, Anita–STANOJEVIĆ, Mateusz–Milan: *Jezik kao informacija*. Srednja Europa, Hrvatsko društvo za primijenjenu lingvistiku, Zagreb, 2013.
[45] Ibid.

DOI: 10.55072/DN.2026.1.53

non-linguistic stimuli. It is precisely the fusion of linguistic, visual, and auditory elements that shapes the architecture of advertising texts and enables such effects.[46]

The language of domestic advertising belongs to the language of advertising across all cultures and nations of the world; it is short, concise, comprehensible, modern, and often shocking and aggressive, all with the aim of achieving successful communication with the consumer. Advertising writers reduce advertising to the use of minimal expression for maximum content; that is, with as few linguistic and other means as possible, they attempt to convey as much as they can, or to communicate the most appealing possible message about a product. In the creation of advertisements, everything is permitted, and the most prominent characteristic is freedom. This is reflected in linguistic creativity (the creation of new words and product names), syntax (the omission of verbs, articles, and prepositions), and style (word choice and the use of stylistic figures).[47] The authors also emphasise the power of advertising language to impose fashion trends, to become an image of the consumer's desires and needs, while at the same time reflecting the individual, the group, and the society to which the product is offered.[48]

However, the language of advertising can also be poor, for example, *A s kim vi bankarite?* (*And who do you bank with?*), where the verb *bankariti*, due to its suffix, acquires a pejorative meaning, which was certainly not the intention of the author of that advertisement. Such poor language is attributed to the authors of advertising texts, who are not sufficiently linguistically educated for the work they perform and often resort to "instant solutions", established expressions, and literal translations from English. In the creation of advertising, "how something is said" is just as important as "what is said".[49]

It is important to mention a significant feature of contemporary language that also permeates the language of today's advertising. This feature is the strong presence of adapted or unadapted English words, or even entire sentences in English, in Croatian today. This phenomenon is usually justified by the difficulty of finding appropriate Croatian equivalents. However, its cause is in fact a consequence of our complacency and intellectual laziness, frequent ignorance, and even fear. The use of a foreign language reveals most about the speakers themselves, about their perception of the value of their own language in relation to other languages, and above all in relation to English. The Croatian standard language is increasingly losing ground in the struggle for prestige in our public communication, while, on the other hand, English is gaining strength in this respect. It can therefore be concluded that, for some speakers, the use of a foreign language in advertising reflects a higher status and value of the product, that is, it signals prestige in relation to the national language.[50]

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[46] STOLAC, Dijana–VLASTELIĆ, Anastazija (ed.): *Jezik i njegovi učinci: Zbornik radova s međunarodnoga znanstvenog skupa Hrvatskoga društva za primijenjenu lingvistiku održanoga od 4. do 6. svibnja 2017. godine u Rijeci.* Biblioteka Srednja Europa, Zagreb, 2018. 304.
[47] Ibid.
[48] STOLAC–VLASTELIĆ, 2014.
[49] Ibid.
[50] Ibid.

DOI: 10.55072/DN.2026.1.53

Advertising seeks to reach every potential consumer, regardless of gender, age, education, or social status. It may be said that advertising "attacks" us at every step, in both private and professional life, but not always in the same way; therefore, those who create advertisements must choose the approach that is most appropriate to a particular situation, moment, or target group. It is a fact that advertisers, thanks to the involvement of psychologists in marketing, are very well acquainted with the needs of children and young people at all stages of their development and strive to meet them successfully.

Advertising clients who wish to reach recipients differing in age, gender, interests, level of education, purchasing power, and many other factors will engage experts from various fields. When it comes to promotional catalogues and leaflets that provide only basic information about a product, the textual component of the advertising message requires compliance with the standard language norm and, accordingly, advisory support. In discussing the language of advertising, the legally prescribed and clearly binding obligation to use the Croatian language, that is, its standard form, has been repeatedly emphasised; however, everyday language practice in this area of public discourse frequently shows a certain disregard for this obligation, which prompted this research.

Research Methodology

The objectives of the study were to identify deviations from the Croatian standard language norm in printed advertising catalogues of retail chains in Croatia; to determine the linguistic levels at which such deviations from the language standard most frequently occur (orthographic, phonological, morphological, syntactic, word-formation, or lexical); and to compare these deviations in the language of advertising catalogues across the advertising publications of selected retail chains.

The research sample consisted of a linguistic corpus of advertising advertisements drawn from printed advertising catalogues of ten food and non-food retail chains. The advertising catalogues were collected between 11 January and 24 April 2024 from the following retail chains: Bipa, Boso, Eurospin, Interspar, Jysk, Kaufland, Konzum, Lidl, Plodine, and Slavonija Bošković.
The collected data were analysed using descriptive and comparative methods, as well as quantitative and normative analysis.

Results and Discussion

The study analysed a linguistic corpus of advertising catalogues from ten retail chains to identify various language errors and classify them according to linguistic levels.[51] This yielded an affirmative answer to the research question of whether

[51] The promotional catalogues of retail chains were collected by Marija Hes, a third-year undergraduate student of Early and Preschool Education at the Faculty of Education, Josip Juraj Strossmayer University of Osijek, who also participated in recording deviations from the standard language norm.

DOI: 10.55072/DN.2026.1.53

deviations from the language standard are present in printed advertising texts of retail chains. In total, 164 errors were recorded and distributed across the following linguistic levels: orthographic, phonological, morphological, syntactic, word-formation, and lexical.

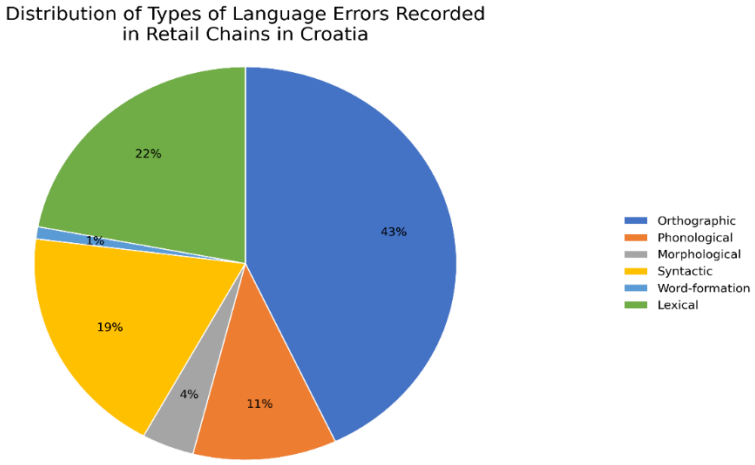

Figure 1. Distribution of Types of Language Errors in Advertising Materials across All Analysed Retail Chains. Note. Adapted and translated into English using AI-assisted tools; data unchanged.

As shown in Figure 1, and in view of the defined research objectives, the following was established: The largest share of the total number of language errors identified in the analysed catalogues consists of orthographic errors (70, or 43%), which is expected given that even basic orthographic rules relating to sentence and other punctuation marks, the correct use of upper- and lower-case letters, and the correct joined and separated spelling of words are often neglected in advertising materials. In terms of overall share, lexical errors follow (37, or 23%); these relate to the inappropriate use of foreign words and expressions, most often phonologically unadapted to the Croatian language, as well as to semantic imprecision. They are followed by syntactic errors (32, or 20%), which most frequently reveal irregularities in sentence grammatical structure and word order. Phonological errors (18) account for 10% of all errors, while various morphological errors were recorded in only 4% of cases (6). The smallest number of errors was identified at the word-formation level – only one, or 1% – which indicates that word-formation errors are rare but nonetheless important because of the effect they may have on the semantic clarity of the advertising message.

The overall distribution of errors shown in Figure 1 provides a clear overview of the dominance of orthographic and lexical deviations in advertising catalogues, while at the same time indicating the presence of various types of language errors that point to insufficient standardisation of the language used in advertising texts.

DOI: 10.55072/DN.2026.1.53

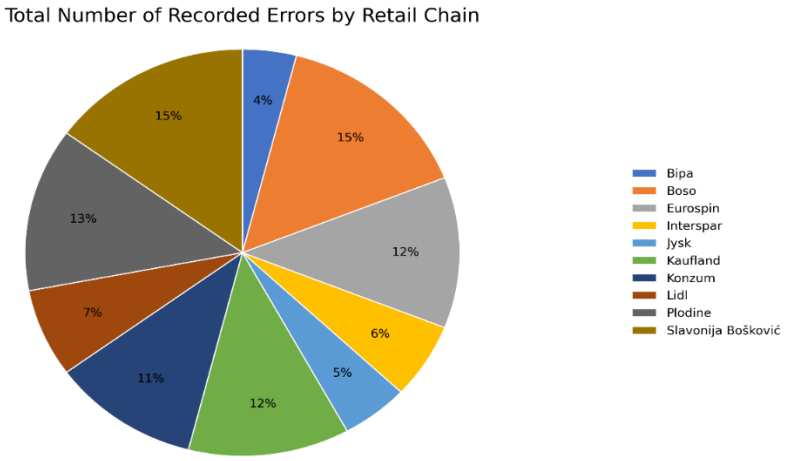

Figure 2. Total Number of Recorded Errors by Retail Chain. Note. Adapted and translated into English using AI-assisted tools; data unchanged.

When the results for individual retail chains are compared (Figure 2), it is evident that the highest total number of errors was recorded in the advertising catalogues of the Boso retail chain (25 errors, or 15% of the total), while a similar number was recorded for the Slavonija Bošković retail chain (24 errors, or 15%), which places these two chains at the bottom of the ranking. More than 10% of the recorded deviations from the norm were also identified in the catalogues of Plodine, Eurospin, Kaufland, and the Konzum retail chain, which is positioned approximately in the middle of the ranking with a total of 18 errors (11%); this somewhat indicates a slightly higher level of language correctness compared to the other chains listed alongside it. In four retail chains, fewer than 10% of the total deviations from the language standard were recorded, namely Lidl, Jysk, Interspar, and Bipa. Among these, the best result in terms of language accuracy was achieved by the Bipa retail chain, as the smallest number of language errors was recorded in Bipa's advertising materials (6 errors, or 4%). It should be noted that Bipa publishes catalogues biweekly; therefore, a smaller number of catalogues was analysed compared to the corpus of weekly catalogues issued by some other chains. However, this is not the reason for the lower overall number of language errors in Bipa's catalogues, since, for example, the Slavonija Bošković chain also publishes catalogues biweekly; consequently, the number of analysed catalogues for both Bipa and Slavonija Bošković is the same, although the number of language errors recorded in them differs considerably. Therefore, the number of errors cannot be causally linked to the number of catalogues published during the observed period.

DOI: 10.55072/DN.2026.1.53

Orthographic Errors

Regarding the specific observed deviations from the language norm, orthographic errors include a wide range of irregularities, the most frequent of which are the following:

1. omitted or superfluous commas: (a) omitted in the listing of words and word groups (*Domaće slavonsko svježe,* BO6;[52] *Kikiriki slani pečeni oljušteni,* PL 4/2024; *Frondi 250 g nougat, kakao mlijeko,* SB9. 2. – 18. 2. 2024.; *Debljina zaštitne pjene cca 5 mm jednostavna montaža otvori koji sprječavaju kondenzaciju dimenzije L ili XXL*, KA10. 4. – 16. 4.); b) omitted with subsequently added notices (*Od petka 05. 04. 2024,* PL14/2024); c) superfluous before disjunctive conjunctions (*Gold 95 g classic, ili cream*, SB15. 3. – 31. 3. 2024.; *Limunada, Naranča-Jabuka, Naranča-nektarina, ili Multivitamin*, SB15. 3. – 31. 3. 2024.); superfluous before a verbal adverb (*Stimulira područje usana i usta, potičući zdrav oralni razvoj*, LI4/2024).
2. omitted full stop after an abbreviation (*Sir topljeni trokutići 16 kom*, EU26. 1. – 30. 1. 2024.; *Limun 10 kom*, EU26. 1. – 30. 1. 2024.).
3. errors in the use of upper- and lower-case initial letters: a) incorrect use of an initial capital letter (*Hrvatski Proizvod*, EU22. – 28. 2. 2024.; *0,5 Litara Limenka,* SB15. 3. – 31. 3. 2024.; *Sirup Bakino Blago*, IS2): b) incorrect use of an initial lower-case letter (*Jysk ima bogat asortiman dodataka za zavjese posjetite jysk.hr ili najbližu jysk trgovinu*, JY7. 2. – 9. 3. 2024.; *Monte desert s lješnjakom zott,* KO4).
4. pisanje spojnice namjesto crtice *(Limunada, Naranča-Jabuka, Naranča-nektarina, ili Multivitamin*, SB15. 3. – 31. 3. 2024.) i ispuštena crtica (*Pionir bomboni 100 grama Karamela Lješnjak*, SB15. 3. – 31. 3. 2024.).
5. inaccuracies in the notation of numbers: a) cardinal Arabic numerals (*03, 04, 05*,[53] BO); b) numerals in dates (*26. 02. do 03. 03.*, LI9/2024; *Posebna ponuda od 07. 03. do 30. 04. 2024.* KO14; *04. – 06. ožujka 2024.* EU29. 2. – 6. 3. 2024.); c) numerals in compounds (*3 slojni, 3-sloja, 3-slojni*, BO6); d) omission of spacing between a numeral and a mathematical symbol, between a numeral and a unit symbol, between a numeral and a percentage sign, and between an abbreviation and a numeral (*dimenzija jedne krpe: 30x40cm*, IS6; *Tuna salata 185g*, SB15. 3. – 31. 3. 2024.; *Jogurt 2,8%*, SB15. 3. – 31. 3. 2024.; *BB krema SPF30*, BI29.2. – 13.3.).
6. use of non-Croatian symbols instead of conjunctions – the logogram &, i.e. a substitute symbol from English for the conjunction i (and), recorded in English syntagms (*Pringles 185g original, paprika, sour cream & onion*, SB9. 2. – 18. 2. 2024.).
7. incorrect joined spelling of two words (*Hladnoljevana spužva*, KA13. 3. – 19. 3.).
8. incorrect spelling of a foreign semi-compound without a hyphen (*Flips pombar*, KO2).

   The highest number of orthographic errors was recorded in the catalogues of the Slavonija Bošković retail chain, with 19.

[52] The abbreviated letter codes in parentheses denote the retail chain (BI – Bipa, BO – Boso, EU – Eurospin, KA – Kaufland, KO – Konzum, PL – Plodine, LI – Lidl, SB – Slavonija Bošković, IS – Interspar, JY – Jysk), while their catalogues are identified by dates or other numerical markers.

[53] These refer to the issue number of the advertising catalogue.

DOI: 10.55072/DN.2026.1.53

Phonological Errors

Within the category of phonological errors, uncertainty in the addition of an epenthetic vowel to the preposition *s* predominates, most often occurring in the form with a superfluous addition, *sa* (*Sa mlijekom*, BO9; *Donut sa čokoladnom glazurom ili s okusom jagode*, PL14/2024). A frequent irregularity involves the alternation of the diphthong (*ije*) and the sound sequence *je* (*Mješano povrće*, BO5; *Hladnoljevana spužva*, KA13. 3. – 19. 3.). Deviations were also observed in the application of certain phonological changes, such as vocalisation (*Slatko-kisel* KA28. 2. – 5. 3.) and voicing assimilation of stops (*Kruh slani bezkvasni*, KO11) as well as the omission or insertion of individual phonemes in words, particularly „j“ and„i“: *Neprianjajući premaz*, KA13. 3. – 19. 3.; *Bombonjera Milka*, BO9; *Ukras perije,* BO10; *Vražije kandže*, BO10). The highest number of phonological errors was recorded in the catalogues of the Boso and Kaufland retail chains (6).

Grammatical Errors

Among grammatical errors, morphological errors were the most frequent and were mainly related to incorrect declension of nouns (*Želim super proizvode po niskim cijenama! S BUDGET za super šparanje!*, IS8) and numerals (*Set od 3* škare, EU11. – 17. 1. 2024.; *Precizan čisti rez sa jednom ili dvije oštrice*, LI9/2024) as well as to the substitution of definite and indefinite adjectives (*Antialergijski luksuzan jastuk*, JY7. 2. – 9. 3. 2024.).

Such types of errors occur in the promotional materials of several retail chains – Eurospin, Interspar, Jysk, Kaufland, Konzum, and Lidl – with one error recorded in each case.

In a large number of cases, syntactic errors relate to the accumulation of nominative noun phrases without adjectival or pronominal modification and determination, which hinders comprehension and considerably undermines the normativity of expression (*Kolač malina kokos,* EU4. – 10. 4. 2024.; *U cink posudi,* KA31. 1. – 6. 2.; *Sa čičak trakom,* JY3. 4. – 8. 4. 2024.). Irregularities in agreement are also observed (*0,5 Litara Limenka*, SB15. 3. – 31. 3. 2024.). In addition, frequent errors occur in the application of the unmarked, so-called grammatical word order, resulting in a disruption of the natural sequencing of words within the syntactic structure of the Croatian language (*Krumpir mladi*, BO3; *Carsko meso marinirano*, EU28. 3. – 3. 4. 2024.). The highest number of syntactic errors was recorded in the promotional materials of the Eurospin retail chain (7).

Word-formation deviations were extremely rare: only a single instance was recorded, in the corpus of the Lidl retail chain, and it concerned the unnecessary formation of a new compound (*Veliki cjenopad*, LI10/2024). Given that advertising discourse forms part of public language use, this study assumes the consistent application of the standard idiom within that discourse and therefore focuses on it accordingly. In this sense, no attention was paid to additional, marginal components of the journalistic style, such as stylistically motivated interventions in word formation, for example, in the above-mentioned expressive newly formed compound *cjenopad*. Thus, the compound *cjenopad* may be

DOI: 10.55072/DN.2026.1.53

regarded as an unnecessary new formation in a narrow standard-language sense; however, in advertising, as a mixture and "a confluence/intersection of different styles",[54] such formations also find their justification, as they serve to attract consumers.

Lexical Errors

The analysis of lexical errors shows that they account for almost a quarter of all identified errors and are predominantly related to the uncritical and overly frequent use of Anglicisms, as well as other loanwords (*Avokado ready to eat*, KA24. 1. – 30. 1.; *Happy vikend*, BI11.4. – 24.4.; *Tips & tricks*, BI11.4. – 24.4.; *Non-stick premaz*, PL4/2024; *Body cream,* BI29.2. – 13.3.; *S timerom,* JY28. 2. – 9. 3. 2024.; *To go brzo i ukusno*, KO2; *Špatula set ALPINA*, BO10; *Gross*, BO5 etc.), which are very often incorporated into Croatian expressions in their original form, that is, completely unadapted to the Croatian language (*Svježi juneći mix za juhu*, LI7/2024).

Semantically imprecise uses of certain words were also identified (*Jako upijajući*, JY26. 1. – 30. 1. 2024., instead of „snažno upijajući"). Although lexical errors may not appear grammatically incorrect, they significantly affect the quality of advertising language, its clarity, stylistic consistency, and compliance with the language standard. The highest number of such errors was observed in the Plodine retail chain corpus (8).

For the purposes of the study, tabular overviews of all language errors identified in the analysed catalogues were prepared and described and classified by type and by retail chain; however, for reasons of conciseness, only selected characteristic examples from these tables are presented in this paper.

Conclusion

Advertising catalogues and leaflets belong to traditional media, but increasingly they are also taking on digital forms. Their purpose is to reach as wide an audience as possible, which is largely achieved by delivering promotional catalogues to many households and individual consumers. Linguistic analysis of advertising catalogues and leaflets of retail chains in Croatia has confirmed that, at almost all linguistic levels, contemporary promotional language, in many instances, deviates from the standard.

The collected and analysed advertising corpus enabled a detailed classification and insight into the types, frequency, and distribution of language errors, with orthographic errors being the most numerous, followed by lexical, syntactic, morphological, phonological, and finally word-formation errors. Such a distribution points to specific features of advertising discourse which, in its primary effort to attract the consumer's attention, often neglects linguistic norms.

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[54] RIŠNER, Vlasta: *Jezik medija kao s(t)jecište različitih stilova*. In: Vlasta RIŠNER (ed.): *Jezik medija nekada i sada: Zbornik radova sa znanstvenoga skupa održanoga 6. i 7. lipnja 2014. godine na Filozofskom fakultetu u Osijeku*. Hrvatska sveučilišna naklada, Filozofski fakultet u Osijeku, Zagreb, Osijek, 2016. 236.

DOI: 10.55072/DN.2026.1.53

Deviations from the language standard may be intentional, when the aim is to attract the attention of a particular target consumer group, for example, young people, or unintentional, in which case they largely reflect insufficient linguistic competence on the part of the authors of advertising texts. A comparative analysis of language errors across different retail chains has highlighted that insufficiently professional and inattentive language use is not an isolated occurrence but a widespread phenomenon in domestic advertising. Language errors are not merely a matter of linguistic correctness, as they also affect the comprehensibility and effectiveness of the message. Moreover, recipients of advertising messages may unintentionally acquire the content of advertising texts along with the language in which they are formulated, which underscores the need for systematic editorial and linguistic supervision. Widespread advertising in traditional and digital media forms part of everyday life. In addition to promoting products, it also reflects the overall state of our language culture.

References

BAGIĆ, Krešimir: *Stilistika reklame*. Ljevak, Zagreb, 2025.

DULČIĆ, Mihovil (ed.): *Govorimo hrvatski: Jezični savjeti*. Hrvatski radio, Naklada Naprijed, Zagreb, 1997.

FRANČIĆ, Anđela–HUDEČEK, Lana–MIHALJEVIĆ, Milica: *Normativnost i višefunkcionalnost u hrvatskome standardnom jeziku*. Hrvatska sveučilišna naklada, Zagreb, 2006.

HAM, Sanda–MLIKOTA, Jadranka–BARABAN, Borko–ORLIĆ, Alen: *Hrvatski jezični savjeti*. Školska knjiga, Zagreb, 2014.

HUDEČEK, Lana–MIHALJEVIĆ, Milica: *Jezik medija*. Hrvatska sveučilišna naklada d. o. o., Zagreb, 2009.

JOJIĆ, Ljiljana (ed.): *Veliki rječnik hrvatskoga standardnog jezika*. Školska knjiga, Zagreb, 2015.

KRYZAN-STANOJEVIĆ, Barbara (ed.): *Jezična politika: Između norme i jezičnog liberalizma*. Srednja Europa, Zagreb, 2016.

LAZZARICH, Marinko: *Metodika Hrvatskoga jezika u razrednoj nastavi: Knjiga prva*. Učiteljski fakultet u Rijeci, Rijeka, 2017.

MAJDENIĆ, Valentina: *Mediji, tekst, kultura*. Ljevak, Zagreb, 2019.

MIKLOŠEVIĆ, Željka*: Ideološka konstrukcija žene u međuratnom razdoblju: reklamni oglasi tvornice Georg Schicht*. Osječki zbornik, 30, Muzej Slavonije, Osijek, 2011. 227–238.

PETI-STANTIĆ, Anita–STANOJEVIĆ, Mateusz–Milan: *Jezik kao informacija*. Srednja Europa, Hrvatsko društvo za primijenjenu lingvistiku, Zagreb, 2013.

RIŠNER, Vlasta: *Jezik medija kao s(t)jecište različitih stilova*. In: Vlasta RIŠNER (ed.): *Jezik medija nekada i sada: Zbornik radova sa znanstvenoga skupa održanoga 6. i 7. lipnja 2014. godine na Filozofskom fakultetu u Osijeku*, Hrvatska sveučilišna naklada, Filozofski fakultet u Osijeku, Zagreb, Osijek, 2016. 236–262.

RIŠNER, Vlasta–GLUŠAC, Maja: *Kroz mijene i dodire publicističkoga stila*. Filozofski fakultet Sveučilišta J. J. Strossmayera u Osijeku, Osijek, 2011.

DOI: 10.55072/DN.2026.1.53

ROSANDIĆ, Dragutin: *Od slova do teksta i metateksta*. Profil, Zagreb, 2002.
SILIĆ, Josip: *Funkcionalni stilovi hrvatskoga jezika*. Disput, Zagreb, 2006.
SILIĆ, Josip–PRANJKOVIĆ, Ivo: *Gramatika hrvatskoga jezika za gimnazije i visoka učilišta*. Školska knjiga, Zagreb, 2007.
STOLAC, Dijana–VLASTELIĆ, Anastazija: *Jezik reklama*. Hrvatska sveučilišna naklada d.o.o., Filozofski fakultet Sveučilišta u Rijeci, Rijeka, 2014.
STOLAC, Dijana–VLASTELIĆ, Anastazija (ed.): *Jezik i njegovi učinci: Zbornik radova s međunarodnoga znanstvenog skupa Hrvatskoga društva za primijenjenu lingvistiku održanoga od 4. do 6. svibnja 2017. godine u Rijeci*. Biblioteka Srednja Europa, Zagreb, 2018.
ŠKILJAN, Dubravko: *Javni jezik*. Antibarbarus, Zagreb, 2000.
TEŽAK, Stjepko: *Hrvatski naš (ne)zaboravljeni*. Tipex, Zagreb, 1999.
TEŽAK, Stjepko–BABIĆ, Stjepan: *Gramatika hrvatskoga jezika: Priručnik za osnovno jezično obrazovanje*. Školska knjiga, Zagreb, 2005.

Online Sources

URL 1: BJELOBRK, Vladimir: *Kojemu funkcionalnom stilu pripadaju reklame?*. Hrvatistika, 2009/3. 67–73. http://hrcak.srce.hr/index.php?show=clanak&id_clanak_jezik=104398.
URL 2: GJURAN-COHA, Anamarija– PAVLOVIĆ, Ljiljana: *Elementi reklamne retorike u hrvatskim reklamnim porukama*. Fluminensia, 2009/1. 41-54. http://hrcak.srce.hr/43474
URL 3: HUDEČEK, Lana–MATKOVIĆ, Maja–ĆUTUK, Igor: *Jezični priručnik Coca-Cole HBC Hrvatska*. Coca-Cola HBC Hrvatska, Zagreb, 2011. http://www.gfos.unios.hr/images/jezicni-prirucnik-coca-cole-hbc-hrvatska-02-2012-1.pdf
URL 4: MIHALJEVIĆ, Milica: *Funkcionalni stilovi hrvatskoga (standardnog) jezika (s posebnim obzirom na znanstveno-popularni i personalni podstil)*. Rasprave Instituta za hrvatski jezik i jezikoslovlje, 2002/1. 325–343. http://hrcak.srce.hr/index.php?show=clanak&id_clanak_jezik=102727.
URL 5: *Zakon o hrvatskom jeziku*. https://narodne-novine.nn.hr/clanci/sluzbeni/2024_02_14_252.html
URL 6: *Zakon o zaštiti potrošača*. https://narodne-novine.nn.hr/clanci/sluzbeni/2007_07_79_2485.html

Note

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Abstract

ON THE NORMATIVE FEATURES OF CROATIAN ADVERTISING DISCOURSE

Over the past three decades, we have witnessed a digital revolution. In such a highly technologically advanced environment, advertising has become one of the most widespread forms of discourse in contemporary society. The omnipresence of advertising discourse has left a clear mark on the shaping of both spoken and written culture. Since this discourse is realised within the public sphere and thus belongs to public language, advertising, as part of public language, necessarily needs to be produced in a normed language. Although advertising is a powerful tool that could help raise the linguistic awareness of contemporary speakers, an analysis of a linguistic corpus comprising advertising catalogues issued by retail chains in Croatia reveals deviations from the standard language norm at all linguistic levels. In addition to the inconsistent application of the Croatian language norm, the study has shown that the shaping of advertising discourse in Croatia is marked by a strong influence of foreign languages, primarily English. Although the use of the Croatian language, that is, its standard form, is clearly prescribed and even legally binding, everyday linguistic practice in this domain of public discourse frequently reveals a certain degree of non-compliance with this obligation, which prompted the research presented in this paper.

Keywords: advertising discourse, retail chain catalogues, language of advertising, Croatian language norm, linguistic errors

Absztrakt

A HORVÁT REKLÁMNYELV NORMATÍV JELLEMZŐIRŐL

Az elmúlt három évtizedben digitális forradalomnak lehettünk tanúi. Egy ilyen, technológiailag rendkívül fejlett környezetben a reklám a kortárs társadalom egyik legelterjedtebb diskurzusformájává vált. A reklámdiskurzus mindennapi jelenléte egyértelmű nyomot hagyott mind a beszélt, mind az írott kultúra alakulásában. Mivel ez a diskurzus a nyilvános szférában valósul meg, és így a köznyelv részét képezi, a reklámnak szükségszerűen a standard (normatív) nyelvváltozatban kell megvalósulnia.

Bár a reklám hatékony eszköz lehetne a kortárs beszélők nyelvi tudatosságának növelésében, a horvátországi kiskereskedelmi láncok reklámkatalógusaiból álló korpusz elemzése azt mutatja, hogy minden nyelvi szinten eltérések tapasztalhatók a standard nyelvi normától. A horvát nyelvi norma következetlen alkalmazása mellett a tanulmány arra is rámutat, hogy a horvát reklámdiskurzust erőteljes idegen nyelvi hatás jellemzi, elsősorban az angol nyelv részéről.

Habár a horvát nyelv, illetve annak standard változatának használata egyértelműen előírt, sőt jogilag is kötelező, a nyilvános diskurzus ezen területén a mindennapi nyelvhasználat gyakran eltérést mutat ettől az elvárástól. Ez a jelenség ösztönözte a jelen tanulmányban bemutatott kutatást.

Kulcsszavak: reklámdiskurzus, kiskereskedelmi láncok katalógusai, reklámnyelv, horvát nyelvi norma, nyelvi hibák

DANUBIUS NOSTER XIV. évf. 2026/1. sz.
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Pavić, Karla–Oreški, Predrag

PARENTAL PROTECTION OF CHILDREN ON THE INTERNET: RESULTS OF A SURVEY STUDY

Introduction

By observing playgrounds, school classrooms, hallways, and even our homes, we can see that, every day, fewer and fewer young children and young people socialise without using the Internet. They make new friends, but in the virtual world. They create new words that are primarily understood within their own groups, as video games, social networks, and the Internet increasingly shape modern vocabularies.

In addition to using technology and the Internet for good purposes, we often encounter various forms of violence through them. Children, as well as adults, can easily access inappropriate content on the Internet.

The Internet is integrated into the daily lives of adults, children, and adolescents, and health professionals often wonder about the effects of Internet use, screens, and digital media on mental and physical health, as well as on family life. Current evidence shows that digital media differ in their impact on cognition, psychosocial functions, and physical health, and that the benefits and risks are nuanced. As one of the benefits of the Internet and digital technology, Ponti states that age-appropriate online programs, watched together with the family with attention to purpose and within defined limits, can be immersive and informative.[1] Screen media can also improve children's academic achievement, enrich literacy knowledge and skills, and help develop positive relationships with teachers and peers. They can foster both autonomous and collaborative learning, encourage exploration, and, through dynamic software and quality apps and games, increase proficiency and reduce math learning deficits, the author states. In addition, cooperative or competitive video games, played with family and friends, can contribute to cognitive and social development, and recreational screen time at low levels (1 hour per day) is associated with a lower risk of depression compared to no screen time.

On the other hand, the author states that exposure to age-inappropriate or violent content, having a television in the bedroom, and/or having the television on in the background can negatively affect development and behaviour. Watching television for more than 3 hours per day at age 5 predicts increased behaviour problems by age 7. Similarly, higher rates of recreational screen use have been reported in children with higher levels of depressive symptoms and lower levels of physical activity.

The stronger association between depressive symptoms and sedentary leisure-time screen-based activities comes from research on younger children, who

[1] Michelle PONTI: *Digital media: Promoting healthy screen use*. Canadian Paediatric Society. https://cps.ca/en/documents/position/digital-media (Hereinafter: PONTI, 2019.)

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appear to be more vulnerable to the negative socio-cognitive outcomes of excessive screen use than teenagers. In addition to the previously mentioned negative outcomes, excessive screen use can also lead to Internet addiction.[2]

Internet addiction is classified as a behavioural addiction. As the authors state, such behavioural addictions are considered a specific group of mental and behavioural disorders in which the consumption of psychoactive substances is excluded as the cause of the addiction itself.[3] Pontes, Kuss, and Griffits similarly state, describing Internet addiction as an excessive or poorly controlled preoccupation, need, or behaviour related to Internet use, which leads to difficulties and problems in multiple areas of life.[4]

Due to the lack of empirical research in this area, Internet addiction has not been included in clinical diseases, except for Internet video game addiction, which is included among the conditions being considered for inclusion. As a cause of Internet addiction, we can say that many things influence it. Still, research shows that the development of addiction is most contributed to by parental attitudes, the level of family cohesion, and children's exposure to domestic violence.[5] The types of addiction differ according to the activity that a person is most occupied with when using the Internet, and there are several different types. Thus, we distinguish between addiction to various social media (Facebook, Instagram, TikTok), addiction to information (browsing various portals with informative content, Internet encyclopaedias, and the like), addiction to playing video games, addiction to pornographic content, and addiction to online betting.[6]

In children, the most common addiction is addiction to social media and addiction to playing video games, as we can see according to a study by the Brave Phone and the Child Protection Clinic of the City of Zagreb from 2008. which showed that almost all children in the study (95%) reported having a computer at home, and 85% also reported having access to the Internet at home. In comparison, 91% of children and young people declared themselves to be Internet users.[7]

Similarly, UNICEF's 2010 study with Brave Phone found that 95% of children have computers, 85% have Internet access, and 96% have a mobile phone. The most important finding of the study is that more than a third of children aged 10 to 11 use the Internet daily, and the majority do so at ages 14 to 15. Their favourite activities on the Internet are music, films, games, correspondence with

[2] Ibid.
[3] Dora DODIG HUNDRIĆ–Neven RICIJAŠ–Monika VLČEK: *Mladi i ovisnost o internetu: Pregled suvremenih spoznaja [Young people and Internet addiction: A review of contemporary findings]*. Časopis za psihologiju, 2018/1. (54.) 123–137. https://hrcak.srce.hr/file/300090 (Hereinafter: HUNDRIĆ, 2018.)
[4] Ibid.
[5] Ibid.
[6] Joško JURMAN–Vlatka BORIČEVIĆ MARŠANIĆ–Ljubica PARADŽIK–Ljiljana KARAPETRIĆ BOLFAN–Svebor JAVORNIK: *Ovisnost o internetu i video igrama [Addiction to the Internet and video games]*. Socijalna psihijatrija, 2017/1. (45.), 36–42. https://hrcak.srce.hr/178945 (Hereinafter: JURMAN, 2017.)
[7] Petra ROBOTIĆ: *Zamke virtualnog svijeta: Zaštita djece i mladih na internetu i prevencija ovisnosti [Traps of the virtual world: Protecting children and young people online and preventing addiction]*. JAHS, (2015/2 (1.), 81–96. https://hrcak.srce.hr/file/240160 (Hereinafter: ROBOTIĆ, 2015.)

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friends, and the use of specialised social networking sites, such as Facebook, which today would definitely include Instagram and TikTok.[8]

A UNICEF study from 2017 showed that 71% of young people (age group 15-24) worldwide have access to the Internet, compared to 48% of the population. On the other hand, UNICEF estimates that one in three Internet users worldwide is a child or adolescent under 18. They also state that there is growing evidence that children are accessing the Internet at earlier ages. In some countries, children under 15 are as likely to use the internet as adults over 25.[9]

The National Survey on Child Internet Safety[10] indicates that an increasing number of children are accessing the Internet at an early age. The study included 1,017 respondents: 307 children aged 9–11, 377 aged 12–14, and 333 aged 15–17. The survey results showed that almost half of children aged 9 to 11, 2/3 of children aged 12 to 14, and 3/4 of children aged 15 to 17 can access the Internet whenever they want or need to. The same survey showed that children most often access the Internet on smartphones, desktop or laptop computers, and tablets. The most widely used social media among children aged 9 to 17 is Facebook, followed by Instagram.

The latest research, conducted in 2024 by the University of Zagreb Faculty of Education and Rehabilitation Sciences (ERF) in cooperation with Croatian Telecom as part of the „Tools for the Modern Age"[11] project of the program for the prevention of risky behaviour of children on the Internet, in which 2,000 seventh and eighth grade primary school students participated, showed that 61% of children have their own profile on a social media or website for playing video games that they currently use, of which 53.8% are girls and 67.8% are boys. The research also showed that the use of social networks increases with the child's age, i.e., 35% of children aged 9 to 11, 68.1% of children aged 12 to 14, and 76.8% of children aged 15 to 17 have their own profile on a social media or video game website that they used at the time of the research.

Dora Dodig Hundrić from the Faculty of Education and Rehabilitation says that research has also shown that around 40% of students use social media for more than three hours a day,[12] 28.5% of them use social media for three to five hours a day, while 11.7% use social media for more than five hours a day. Dodig Hundrić states that the amount of time spent on digital platforms increases on

[8] Ibid.

[9] UNICEF: *Stanje djece u svijetu 2017: Djeca u digitalnom svijetu* [The state of the world's children 2017. Children in a digital world]. https://www.unicef.org/croatia/media/691/file/Stanje%20djece%20u%20svijetu%202017.%20%E2%80%93%20Djeca%20u%20digitalnom%20svijetu%20.pdf (Hereinafter UNICEF, 2017.)

[10] Lana CIBOCI–Ivana ĆOSIĆ PREGRAD–Igor KANIŽAJ–Dunja POTOČNIK–Dejan VINKOVIĆ: *Nacionalno istraživanje o sigurnosti djece na internetu: HR Kids Online* [National study on children's online safety: HR Kids Online]. 2020. https://hrkids.online/prez/EUKidsOnlineHRfinal.pdf2 (Hereinafter CIBOCI, 2020.)

[11] University of Zagreb Faculty of Education and Rehabilitation Sciences, Croatian Telecom: Tools for the Modern Age". 2024. https://www.hrvatskitelekom.hr/ht-grupa/en/responsibility/tools (Hereinafter ERF, 2024.)

[12] Hrvatska radiotelevizija: *Istraživanje: 40% djece na društvenim mrežama više od tri sata dnevno* [Study: 40% of children spend more than three hours a day on social media]. 2024. https://magazin.hrt.hr/znanost-tehnologija/istrazivanje-40-posto-djece-na-drustvenim-mrezama-vise-od-tri-sata-dnevno-11774768 (Hereinafter HRVATSKA RADIOTELEVIZIJA, 2024.)

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weekends, with 62.3% of students spending more than three hours a day on social networks, 34.8% spending three to five hours a day, and 27.5% spending more than five hours. The research also showed that symptoms of addiction to social media are present in 1.6% of children, which means that their psychosocial functioning is seriously impaired.

In addition to impaired psychosocial functioning, one of the most common problems that children encounter is violence on the Internet and social media. The most common forms of violence, according to another study, conducted in 2023, on the topic of peer violence on the Internet and social media in a representative sample of primary and secondary schools in the City of Zagreb, are: saying bad things about victims of violence via the Internet or messages, spreading gossip on the Internet, and excluding or ignoring them on social media. The study found that 51.6% of primary school students experienced someone saying bad things about them online or in messages; 29% of students were the perpetrators; and 32.3% of primary school students experienced online gossip about them. In comparison, 16.8% did the same, and 29.9% of respondents reported excluding or ignoring someone on social networks, while 41.3% of students experienced this.[13]

Children themselves are not always aware whether they are the perpetrator or the victim, and that this is violence that is also punishable. So parents, in particular, are obliged to take care of their children, monitor their use of the Internet, and protect children in the virtual world.

However, parents today are very often powerless, or at least they feel that way, when it comes to the Internet and their children, because in most cases, as they grow up with technology and the Internet, they know much more than they do themselves, so some parents, out of fear of the unknown sides of the Internet, may resort to complete bans on its use, which is also not good. We should not excessively limit children in acquiring the necessary skills that will enable them to function in the community; we should not arouse fear and suspicion in them, but rather provide them with enough knowledge appropriate to their age so that they are aware of potential dangers.[14]

On the other hand, some parents give their children complete freedom to use the Internet. Still, just as they should not completely prohibit their children from using it, they should also not allow their children's desire for privacy to override their parents' responsibility to monitor them.[15]

Similarly, Ponti states that in addition to lost opportunities for learning, playing, and interacting with family, independent screen use dramatically increases the risk of exposure to harmful content. Research has also shown that children can be overly confident in their ability to protect themselves online.[16]

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[13] Ana LONJAK: *Ne diraj! Opasno igralište novog doba: Dijete nosi svog zlostavljača u džepu, nema odmaka ni sigurnog mjesta [Don't touch! The dangerous playground of a new era: A child carries their abuser in their pocket, with no escape or safe place].* Dnevnik.hr. 2024. https://dnevnik.hr/vijesti/hrvatska/ne-diraj-opasno-igraliste-novog-doba-dijete-nosi-svog-zlostavljača-u-džepu-nema-odmaka-ni-sigurnog-mjesta---880677.html (Hereinafter: LONJAK, 2024.)

[14] Ibid.

[15] Ibid.

[16] PONTI, 2019.

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Parental Control Applications

Parents, of course, cannot constantly monitor what their children do while using the Internet, but various applications can help with parental control.

One of the most famous is Google Family Link, a free, specialised application for Android devices. Like most applications, it offers location tracking and the ability to approve or block applications that the child wants to download from the Google Play Store. The parents can manage the time the child spends on the Internet, and also create child accounts with limited access so that children can only access appropriate features.

The following application is Mobicip. The application is available on Android devices and other platforms, including Windows, Mac, and iOS, and lets you lock your child's device with a single tap. It sends alerts if the child tries to access blocked content or when the device usage time limit is exceeded. It also offers a customizable internet filter, an application blocker, and a location-tracking tool.

Mama Bear is also an app that can help protect children online. The parents can use this application to monitor children's social media content and activities, and read all incoming and outgoing text messages. Like the aforementioned apps, it also offers a location tracking option, and if a child is on the move, whether in a car or a bus, it can react and notify you if the vehicle's speed is above the permitted limit.

One of the apps is Screen Time, which allows parents to set limits on the time their children spend on different apps on their devices. It can also create a list of apps that will always be available, as well as those with limited usage time. Using the Screen Time app, parents can temporarily pause or permanently block a specific app and review and approve the apps their child wants to install on their device.

One of the newer apps for child protection is NetNanny, whose system is based on artificial intelligence that identifies problematic keywords that could indicate online violence, explicit materials, drug use, or other dangerous behaviours and proactively blocks that content. The system is designed to analyse the content of specific subpages and block only inappropriate content, rather than entire websites. As with other applications, you can set a screen usage schedule, track location, and receive reports on time spent on the Internet. The application also monitors social network use and sends a warning if it detects potential risks. The only drawback of the NetNanny application is that it is available only on Windows and Mac devices, whereas the others are also available on smartphones.[17,18]

These are just some of the applications available on the market, either free (like YouTube Kids) or paid (like Aura, Bark, Qustodio, and many others).

[17] Andjela NIKOLIĆ: *Najbolje aplikacije za roditeljsku kontrolu* [Best parental control applications]. vpnMentor. 2020. https://hr.vpnmentor.com/blog/najbolje-aplikacije-za-roditeljsku-kontrolu (Hereinafter: NIKOLIĆ, 2020.)

[18] Školski portal: *9 roditeljskih aplikacija za nadzor djece na internetu i pametnim uređajima* [Nine parental applications for monitoring children on the Internet and smart devices]. 2018. https://www.skolskiportal.hr/sadrzaj/zanimljivosti/9-roditeljskih-aplikacija-za-nadzor-djece-na-internetu-i-pametnim-uredajima/ (Hereinafter ŠKOLSKI PORTAL, 2018.)

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Literature review

Many of the applications we use require an Internet connection, and according to the Central Bureau of Statistics, 88% of respondents in Croatia have access to the Internet[19]. Various studies by numerous authors show that many parents are familiar with Internet parental controls and use them.

One of the studies was a 2019 study conducted for A1 Hrvatska.[20] The company IPSOS surveyed parents' familiarity with child protection applications and how often they use them. The study, which involved 300 respondents, showed that 92% of parents do not use child protection applications and do not have safe access to them, and 93% stated they do not want to use them. In conclusion, the study asserts that contemporary children are being raised in an environment fundamentally different from that of their parents.

Likewise, the new technologies they encounter pose dangers that children (and their parents) are unaware of. They also state that it is actually parents who unknowingly expose children to potential dangers by posting their photos on social networks, without being aware of who can see them or what they can be used for. That is why, in conclusion, they state that parents should educate themselves, engage, and act as a filter between Internet content and their children.[21]

Later, the same research was published in an article by the 24 sata portal, which also publishes A1 data showing that 45% of children use the Internet independently, and 90% of children independently launch and search for the content they want. Likewise, 80% of children live in households with five or more electronic devices, and 97% of them know how to turn on an electronic device independently. They also added that 77% of preschool children take photos and record videos with their mobile phones.[22]

Somewhat earlier, in 2014, Mario Dumančić, Martina Štibrić, and Vesna Markovac from the University of Zagreb Faculty of Teacher Education conducted a study involving 313 respondents on the topic of „Parental Education on Child Protection on the Internet".[23] Their research aimed to determine how educated

[19] Državni zavod za statistiku: *Primjena informacijskih i komunikacijskih tehnologija (IKT) u kućanstvima i kod pojedinaca u 2024* [Use of information and communication technologies (ICT) in households and by individuals in 2024]. 2024. https://podaci.dzs.hr/2024/hr/76943 (Hereinafter: DRŽAVNI ZAVOD ZA STATISTIKU, 2024.)

[20] 24sata: *5 koraka za bolju sigurnost djece na internetu* [Five steps for better children's online safety]. 2019. https://www.24sata.hr/native-sadrzaj/5-koraka-za-bolju-sigurnost-djece-na-internetu-644631 (Hereinafter: 24SATAa, 2019.)

[21] Martina ČIŽMIĆ: *Više od 90 posto roditelja u Hrvatskoj ne zna što im djeca rade na internetu* [More than 90 percent of parents in Croatia do not know what their children do online]. Zimo, 2019. https://zimo.dnevnik.hr/clanak/vise-od-90-posto-roditelja-u-hrvatskoj-ne-zna-sto-im-djeca-rade-na-internetu-557156.html (Hereinafter: ČIŽMIĆ, 2019)

[22] 24sata: *Neprimjerena slika na internetu može ostaviti posljedice na dijete* [Inappropriate images online can leave consequences for a child]. 2019. https://www.24sata.hr/promo-sadrzaj/neprimjerna-slika-na-internetu-moze-ostaviti-posljedice-na-dijete-624801 (Hereinafter: 24SATAb, 2019.)

[23] Mario DUMANČIĆ, Martina ŠTIBRIĆ, & Vesna MARKOVAC: Educiranost roditelja o zaštiti djece na internetu [Parents' level of education regarding children's online protection]. In *14. Dani Mate Demarina: Suvremeni izazovi teorije i prakse odgoja i obrazovanja* [14th Mate Demarin Days: Contemporary challenges of educational theory and practice] University of Zagreb Faculty of Teacher Education, 2014. 71–79. (Hereinafter DUMANČIĆ, 2014.)

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parents are about the dangers and risks on the Internet and how competent they are in protecting their children from it. In their research, they set four hypotheses, which were that there is no statistically significant difference in parental education on child protection on the Internet concerning the age, gender, and educational background of the parents, and that parents in urban areas are better educated about child protection on the Internet than parents in rural areas.

The study found that 89.50% of the parents surveyed own a computer with Internet access, while 10.50% do not. Of the 89.50%, only 36.7% said they use the Internet often, while 52.1% said they use it sometimes. When asked for what purpose they use the Internet, parents stated that 81.4% use it to obtain various information, 29.7% for education/work, 31.16% for communication with other people, and only 16% for downloading and viewing audio and video content.

The authors examined the extent to which parents are educated about protecting children online using several survey questions. The results showed that the majority of parents (63.3%) have a computer in the living room from which their child goes online, while 20.1% go online from a computer in their room. A small proportion of parents (9.3%) answered that the computer is located elsewhere, in the bedroom or study.

As one indicator of education, the authors also listed parents' ability to independently update the operating system, install antivirus software, and use a firewall. Only 38% of respondents reported updating everything independently, and 27.2% reported doing so with the help of someone with the necessary knowledge. A large percentage of parents surveyed, 51.8%, stated that they regularly monitor their child's activities on the Internet, while 25.2% did so occasionally. It is found that 8.4% of parents do not monitor their child, and 4.5% believe their child is sufficiently informed, while 2.9% believe they do not have enough knowledge about the Internet to monitor their child. 29.7% of parents chose the media as their primary source of information on the safety and protection of children on the Internet, and 31.9% chose magazines and websites. The fewest responses, 4.5%, were for education/seminars, while 12.1% of parents reported receiving such information at the school their child attends.

Ivana Lagator, Danijela Šincek, and Ivana Duvnjak from the Josip Juraj Strossmayer University in Osijek and the Faculty of Humanities and Social Sciences in Osijek conducted a study on the topic „Parental supervision and the behaviour of girls and boys on the Internet"[24] whose aim was to examine the relationship between parental supervision and the gender of the respondents with some behaviours on the Internet. Their study, which involved 388 fourth-grade students, showed that 62.6% of respondents have parents who limit their Internet use, and 79.4% state that their parents restrict their use of both the Internet and computers. Of the total number of respondents, 51.3% stated that they talk to

[24] Ivana LAGATOR–Danijela ŠINCEK–Ivana DUVNJAK: *Roditeljski nadzor i ponašanje djevojčica i dječaka na internetu [Parental supervision and the online behaviour of girls and boys]*. Filozofski fakultet Sveučilišta Josipa Jurja Strossmayera u Osijeku [Faculty of Humanities and Social Sciences, University of Josip Juraj Strossmayer in Osijek]. 2018. https://hrcak.srce.hr/file/320613 (Hereinafter: LAGATOR, 2018.)

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their parents about the content they publish, while 54.9% indicated that their parents do not monitor their use of social networks.[25]

On the other hand, in a study conducted by Maja Ravnić Radola,[26] which included 156 parents of early and preschool children, the results showed that 52.2% completely agreed with the statement: „A child uses a digital device only under the supervision of an adult." 21.9% agreed, 15.5% neither agreed nor disagreed, 5.8% disagreed, and 4.5% completely disagreed. When all is said and done, 74.2% of parents responded that they completely agreed or agreed that their child's use of the Internet, or their time spent in front of digital screens, should be monitored.

Regarding parental controls or programs for children's safety and protection on the Internet, 57.1% of parents confirmed using specific programs. In comparison, 32.5% of them do not use any form of safety or protection program. In the research, the author also addressed parental education, finding that 87.1% of parents consider themselves educated about the potential dangers and protections for children on the Internet.[27]

In her research for her graduation thesis, Bernarda Bošnjak[28] found that, out of the total number of respondents (155), 63.9% limit the time their children spend using media daily, and 25.8% as needed. In contrast, 7.7% only do so during the day, and 4% mostly do not. She also asked parents to what extent they talk to their child about how they use and for what purposes they use a digital device, or the Internet, to which 56.8% responded that they spoke to their child in detail, 66% partially, and 0.6%, or one respondent, stated that they did not talk at all. A slightly better result was shown in the question about how much they spoke with their child about the dangers of the Internet and inappropriate content, where 69.5% of respondents spoke in detail, 29.9% spoke partially, and only one respondent did not speak at all. A question that deserves special attention is whether they use parental control on their children's mobile devices, with results showing that of the 107 respondents who answered this question, 63.6% use parental control tools and 36.4% do not. In her research, Bošnjak also asked parents to write down which parental control tools they use, and the most common answer, 81.3%, was Google Family Link, followed to a somewhat lesser extent by Find My Kids, GPS tracker, Find My Kid Pingo, Google Family, Locator 24, Life 360, and iPhone family sharing. Some of the answers were about using a user account, parental control on a mobile phone, and parental control that prevents a child from installing anything without the parent entering a password.

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[25] Ibid.

[26] Maja RAVNIĆ RADOLA: *Sigurnost i zaštita djece na internetu* [*Safety and protection of children on the Internet]*. Master's thesis, Juraj Dobrila University of Pula. 2024. https://repozitorij.unipu.hr/islandora/object/unipu%3A9100/datastream/PDF/view (Hereinafter: RAVNIĆ RADOLA, 2024.)

[27] Ibid.

[28] Bernarda BOŠNJAK: *Stavovi, znanje i informacijske potrebe roditelja o dječjem korištenju medija i digitalnih uređaja [Parents' attitudes, knowledge, and informational needs regarding children's use of media and digital devices]*. Master's thesis, University of Josip Juraj Strossmayer in Osijek, Faculty of Humanities and Social Sciences. 2024. https://repozitorij.ffos.hr/islandora/object/ffos%3A6954/datastream/PDF/view2 (Hereinafter: BOŠNJAK, 2024.)

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When asked for what purposes they use parental controls, parents' answers were to control the applications and games their child downloads, which was reported by 89.7% of parents, while the least, 19.1%, use them to control or monitor messages and calls.[29] In a study conducted by Ivančić,[30] in which 300 parents of children under 18 participated, 80.3% stated that they monitor their children's Internet use, and 9% stated that they do not have parental control over their children's Internet use. Likewise, only 52.3% of parents said they advise and teach their children and discuss the proper use of the Internet with them. The results cited by Ivančić also show that 32% state that they constantly check websites, contacts, messages, and profiles as a form of parental control, while 31% state that they set technical restrictions using blocking and/or filtering software and time limits. Only 5% of parents say they do not supervise their children's internet use. Of the parents who gave this answer, 86.7% have children aged 11 or older.

Of the parents who gave this answer, 86.7% have children older than 11 years. Ivančić also compared the work of Sean Meehan and John Hickey on this topic, which showed that parents monitor the use of the Internet by female children to a much greater extent. In contrast, in her research, the results showed that parents' attitude on this topic is most often neutral, as indicated by the percentage of 48.7% of respondents who neither agree nor disagree with this statement, and more parents, 30.7% of them, disagree with this statement.

Ivona Marić also researched a similar topic[31]. Of the total 82 responses, 78% of parents stated they knew there were parental protection applications, and 22% did not. The applications they listed as known were Google Family Link, YouTube Kids, Family Keeper, Qustodio, Mobicip, and Mama Bear. They also listed some settings the mobile device itself offers for protection, including Screen Time and a password. Among the well-known applications, respondents indicated that they use Google Family Link, Family Keeper, antivirus programs, and their own „physical" surveillance most frequently. Likewise, the research showed that 95.1% of parents are aware of the dangers that threaten their children on the Internet, and Marić supports this with results that show that most parents, 73.2% of them, check their browsing history on the Internet. A large number of parents (82.9%) talk to their child about potential dangers on the Internet and consider it essential to familiarise their child with these dangers. On the other hand, although the majority reported being aware of the risks, the results also show that only 40.2% of respondents supervise their child while using the Internet, while 59.8% do not.

National research on children's safety on the Internet conducted by Lana Ciboci, Ivana Ćosić Pregrad, Igor Kanižaj, Dunja Potočnik, and Dejan Vinković[32]

[29] Ibid.

[30] Martina IVANČIĆ: *Znanje i stavovi roditelja o digitalnim navikama njihove djece [Parents' knowledge and attitudes regarding their children's digital habits]*. Master's thesis, University of Zagreb, Faculty of Croatian Studies, 2021. https://repozitorij.hrstud.unizg.hr/islandora/object/hrstud%3A2655/datastream/PDF/view (Hereinafter: IVANČIĆ, 2021.)

[31] Ivona MARIĆ: *Roditeljska kontrola i zaštita djece u virtualnom svijetu [Parental control and protection of children in the virtual world]*. Master's thesis, University of Slavonski Brod, 2022. https://repozitorij.unisb.hr/islandora/object/unisb:1170 (Hereinafter MARIĆ, 2022.)

[32] CIBOCI, 2020.

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showed that, out of 982 respondents, 40.9% claimed that their children confided in them and asked for help when something upset them, and 55% of children never talked to their parents or guardians about something that bothered or disturbed them on the Internet. Their research showed that parents, 71.4% of them, mostly never use parental controls or monitor which applications their children download.

On the other hand, foreign literature sources bring different results. Kaspersky,[33] a multinational provider of cybersecurity and antivirus protection services, conducted an online survey of 11,000 respondents in September 2021 to explore the role of healthy digital habits in families and the impact of parental habits on children and vice versa. Adults living with children aged 7 to 12 participated in the study. The sample included 1000 respondents from the United Kingdom, France, and Germany, and 500 in each of the following countries: the USA, Turkey, Egypt, Brazil, Colombia, Russia, South Africa, Malaysia, Singapore, the UAE, Saudi Arabia, Nigeria, Peru, Chile, Argentina, and Mexico. The survey showed that almost half of respondents (48%) use parental control applications, and 45% regularly check their children's Internet history. Moreover, 51% of parents reported that their children use digital devices under the supervision of a parent (42%) or a family member (9%). 49% of respondents want to limit the time their children spend online and on their devices during the day, while 23% trust their children and do not control them. The research also showed that parents (87%) bear the primary responsibility for a child's behaviour in the digital space, and that more than a quarter of respondents (28%) believe teachers and schools should do so. In comparison, 27% believe that children should have personal responsibility. In support of this view, 90% of parents have discussed the rules of online behaviour and digital etiquette with their children. Only one tenth of all respondents (10%) did not raise this topic with their children.

Likewise, a June 2023 survey of 2,000 parents of children aged 4 to 16 by the Internet Matters Team in the United Kingdom[34] found that parental awareness of online safety tools remains low. On the other hand, the research showed that 93% of parents are familiar with at least one type of parental control. The question about parental control showed that 4 out of 5 parents (81%) use some form of parental control, while 1 out of 5 parents (19%) who are aware of the possibilities of parental control do not use it.

More than half of parents are also aware of apps that can manage screen time, control gaming consoles, and adjust streaming and search security settings, but less than a third use them. The least parents are aware (37%) of security software apps (e.g., NetNanny, McAfee Family, Norton Family, Circle), while only 15% use them. Parental controls on social media (e.g., Snapchat Family Centre, TikTok Family Pairing, Instagram parental controls) also showed low levels of awareness (42%) and use (19%) among parents.

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[33] Kaspersky: *Freedom and responsibility: 48% of parents use parental control apps*. 2021. https://www.kaspersky.com/about/press-releases/freedom-and-responsibility-48-of-parents-use-parental-control-apps (Hereinafter: KASPERSKY, 2021.)

[34] Internet Matters: *Research tracker: Awareness and usage of parental controls*. 2023. https://www.internetmatters.org/hub/news-blogs/research-tracker-awareness-usage-parental-controls/ (Hereinafter: INTERNET MATTERS, 2023.)

DOI: 10.55072/DN.2026.1.73

Researchers asked parents who did not use any online protection for their children (53%) why, and the most common reason was that they did not feel they needed it.[35] Furthermore, in Spain, due to disturbing data such as 31.5% of teenagers using the Internet for more than five hours a day during the week, or 58.4% sleeping with their mobile phones, and 21.6% going online after midnight, as stated in a UNICEF report in Spain, five Spanish ministers have passed a law to protect minors in digital environments.

Among the many sections, as stated by the author of the article[36], one stands out: manufacturers of devices such as smartphones, tablets, and computers will have to include a completely free parental control feature. They state the reason for this: given the concerns about the inappropriate use of digital devices due to their health consequences, or possible access to content that could be harmful to minors. Consequently, all internet-enabled devices will have to include free parental controls.

Methods

The aim of the research

This research aims to examine whether and how parents protect their children online. Specifically, the study investigates parents' knowledge and use of parental protection tools among families with children in lower primary school grades, as well as differences by parents' age, place of residence (rural versus urban), gender, and the child's gender. In addition, the research examines how parental online protection practices vary according to parents' level of education.

Hypotheses

There are five hypotheses in this study:

H1 - There is a statistically significant difference in parental protection of children on the Internet with respect to the age of the parents

H2 - There is a statistically significant difference in parental protection of children on the Internet with respect to the gender of the parents

H3 - There is a statistically significant difference in parental protection of children on the Internet with respect to the parents' place of residence

H4 - There is a statistically significant difference in parental protection of children on the Internet with respect to the level of education of the parents

H5 - There is a statistically significant difference in parental protection of children on the Internet with respect to the gender of the child.

[35] Ibid.

[36] Laura Pajuelo: *Todos los dispositivos con Internet tendrán que contar con control parental gratuito: Estos son los que ya puedes usar* [All Internet-enabled devices will be required to include free parental controls: These are the ones you can already use]. *El País*. 2025. https://elpais.com/tecnologia/2025-04-09/todos-los-dispositivos-con-internet-tendran-que-contar-con-control-parental-gratuito-estos-son-los-que-ya-puedes-usar.html (Hereinafter: PAJUELO, 2025.)

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Sample

The sample consists of 233 parents, residents of the Republic of Croatia, whose children attend primary school from the first to the fourth grade (Table 1).

Gender	***N***	**%**
Female	198	85.0
Male	34	14.6
Prefer not to say	1	0.4
Total	233	100.0
Age	**N**	**%**
Younger (< 40)	108	47.6
Older (40 and older)	119	52.4
Total	227	100.0
Level of Education	**N**	**%**
Lower	90	38.6
Higher	143	61.4
Total	233	100.0
Place of Residence	**N**	**%**
Rural	67	28.8
Urban	166	71.2
Total	233	100.0

Number of respondents by gender, age, level of education, and place of residence (Table 1)

The number of respondents' children who attend primary school from first to fourth grade is distributed similarly (Table 2).

Grade	***N***	**%**
1	64	27.5
2	53	22.7
3	55	23.6
4	61	26.2
Total	233	100.0

Children's primary school grade (Table 2)

DOI: 10.55072/DN.2026.1.73

Instruments

For the research, the authors designed a 34-question survey questionnaire. The first seven questions were multiple-choice, followed by short-answer questions on the parents' and child's age and gender, the parents' education and place of residence, and the school the child attends, including the place and grade.

The remaining questions were also mostly multiple-choice, check-box questions, and several Likert-type scale questions and they related to the child's use of digital technology and the Internet, how much time the child spends online per day, and whether parents use parental control applications for children on the Internet, how familiar they are with what their child is doing online, and whether they consider themselves educated enough to be able to protect their child from the dangers of the Internet.

Procedure

The data are collected via an online questionnaire (Google Forms). Respondents were invited to complete the questionnaire via various social media groups (WhatsApp, Viber, Facebook, etc.). Respondents could complete the questionnaire from January 24, 2025, to March 24, 2025. Respondents took 5 to 10 minutes to complete each questionnaire. The survey was anonymous.

Statistical methods

Descriptive statistics, including frequencies, percentages, tables, and charts, were applied, along with nonparametric statistical methods such as the Chi-square test and the Mann–Whitney U test.

Statistical data analysis was conducted using IBM SPSS Statistics, version 30.0.0.0 (IBM Corporation, 2024).

Results

The majority of children had their first contact with the Internet at an early age. Specifically, 38.2% (n = 89) were first exposed between 3 and 5 years of age, followed by 27.9% (n = 65) between 6 and 7 years of age. Nearly one in five children (18.9%, n = 44) had Internet access before age 3. A smaller proportion first accessed the Internet between 8 and 9 years (12.0%, n = 28), while very few did so at ages 10–11 (0.9%, n = 2). Only 2.1% (n = 4) had not yet had any contact with the Internet at the time of data collection. Overall, these findings indicate that initial Internet exposure typically occurs during early childhood (Table 3).

Child age (years)	***N***	**%**
Not yet	4	2.1
Younger than 3	44	18.9
3 - 5	89	38.2
6 - 7	65	27.9

DOI: 10.55072/DN.2026.1.73

8 - 9	28	12.0
10 - 11	2	0.9
Total	233	100.0

Children's age at the time of first contact with the Internet (Table 3)

At the time of data collection, over one quarter of the children (27.5%, n = 64) had not yet received their first digital device. Among those who had, the most common age at first device acquisition was between 6 and 7 years (29.6%, n = 69), followed by 8 to 9 years (24.0%, n = 56). A smaller proportion received their first digital device between 3 and 5 years of age (14.6%, n = 34), while very few did so before the age of 3 (0.9%, n = 2) or between 10 and 11 years (3.4%, n = 8). Overall, these findings suggest that ownership of a first digital device generally occurs later than initial Internet exposure, most commonly during the early years of primary schooling (Table 4).

Child age (years)	***N***	**%**
Not yet	64	27.5
Younger than 3	2	0.9
3 - 5	34	14.6
6 - 7	69	29.6
8 - 9	56	24.0
10 - 11	8	3.4
Total	233	100.0

Children's age at the time they got their first digital device (Table 4)

A majority of respondents reported using parental control applications. Specifically, 61.8% (n = 144) reported using such applications, while 38.2% (n = 89) reported not using parental control tools. These results suggest that a substantial proportion of families use parental control applications, although a sizeable minority do not (Table 5).

Answer	***N***	**%**
Use	144	61.8
Do not use	89	38.2
Total	233	100.0

Number of respondents who use and do not use the parental control applications (Table 5)

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The majority of respondents reported using the built-in parental control application Family Link (108 respondents). The frequently used ones are YouTube Kids (50 respondents) and Screen Time (8 respondents) (Table 6).

Application	***N***
Family Link	108
Youtube Kids	50
Screen Time	8
Qustodio	2
Kids360 App	1
Kidslox	1
Mobicip	1

Most frequently used parental control applications (Table 6)

Seven questionnaire items were used to confirm or reject the following hypotheses:

1. Have you ever attended a lecture or workshop on online child safety and parental controls?

The majority of respondents (n = 150, 64.4%) reported not attending a lecture or workshop on online child safety and parental controls. In contrast, the rest reported that they did (n = 83, 36.6%) (Table 7).

Answer	***N***	**%**
Yes	83	36.6
No	150	64.4
Total	233	100.0

Number of respondents who attended a lecture or workshop on online safety and parental controls (Table 7)

2. Have you ever looked independently for information on online child safety and parental controls?

The majority of respondents (n = 164, 70.4%) independently sought information on online child safety and parental controls, while 69 respondents (29.6%) reported not doing so (Table 8).

Answer	***N***	**%**
Yes	164	70.4
No	69	29.6
Total	233	100.0

Number of respondents who independently looked for information about online child safety and parental controls (Table 8)

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3. Are you familiar with any applications or tools used for online parental control?

The majority of respondents reported familiarity with some applications or tools for online parental control (n = 150, 64.4%); 49 reported they are not sure (21.0%); and 34 stated they are not (14.6%) (Table 9).

Answer	*N*	%
Yes	150	64.4
No	34	14.6
Maybe	49	21.0
Total	233	100.0

Number of respondents who are familiar with any applications or tools used for online parental control (Table 9)

4. Do you currently use any parental control applications?

There are 144 respondents (61.8%) who reported that they currently use some parental control applications, and there are 89 respondents who do not (38.2%) (Table 10).

Answer	*N*	%
Yes	144	61.8
No	89	38.2
Total	233	100.0

Number of respondents who currently use any parental control applications (Table 10)

5. Do you use built-in parental control features on your child's phone or tablet (e.g., Screen Time, App Usage Limits, or similar)?

Almost half of the respondents (n = 108, 46.4%) reported using the built-in parental control features on their child's phone or tablet, and the other half (n = 113, 48.4%) reported not using them, while 10 respondents did not know. Two respondents' children do not use mobile devices (Table 11).

Answer	*N*	%
Yes	108	46.4
No	113	48.4
I do not know	10	4.3
Children do not use mobile devices	2	0.9
Total	233	100.0

Number of parents using built-in parental control features on their child's phone or tablet (Table 11)

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6. Do you feel that you are adequately protecting your child online?

Almost half of the respondents (n = 108, 46.4%) reported feeling they are adequately protecting their children online, while 48 respondents (20.6%) reported they are not. One-third of the respondents (n = 77, 33.0%) reported not knowing (Table 12).

Answer	*N*	%
Yes	108	46.4
No	48	20.6
I do not know	77	33.0
Total	233	100.0

Number of parents who think that they adequately protect their child online (Table 12)

7. I believe that I devote enough attention to protecting my child online.

The majority of respondents (n = 157, 67.4%) reported agreeing or strongly agreeing with the statement that they devote sufficient attention to protecting their children online; 58 (24.9%) neither agreed nor disagreed; and 18 (7.7%) disagreed or strongly disagreed.

Answer	*N*	%
1 - Totally disagree	4	1.7
2 - Disagree	14	6.0
3 - Neither agree nor disagree	58	24.9
4 - Agree	75	32.2
5 - Totally agree	82	35.2
Total	233	100.0

Respondents' opinion on their attention to protecting their child online (Table 13)

Evaluation of Proposed Hypotheses

H1 - There is a statistically significant difference in parental protection of children on the Internet with respect to the age of the parents

Questionnaire item	Test results	Statistically significant
1 - attended a lecture	$\chi^2 = .319$, df = 1, $p = .572$	No
2 - independently looked for information	$\chi^2 = 10.551$, df = 1, $p = .001$	**Yes**
3 - familiar with applications or tools	$\chi^2 = .485$, df = 2, $p = .785$	No
4 - use parental control applications	$\chi^2 = .030$, df = 1, $p = .863$	No

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5 - use built-in parental control	χ^2 =9.181, df = 2, p = .010	**Yes**
6 - adequately protecting	χ^2 = 4.418, df = 2, p = .110	No
7 - enough attention	U = 5188.500, p = .009	**Yes**

Test results for hypothesis H1 (Table 14)

A higher percentage of older parents (80.7%) than younger parents (60.2%) independently researched parental protection of children on the internet (χ2 = 10.551, df = 1, p = .001).

Older parents (51.3%) use the built-in protection options in the operating system more often than younger parents (40.7%) (χ2 = 9.181, df = 2, p = .010).

Younger parents (Mean Rank = 125.46) are more likely to believe that they are paying enough attention to protecting their child online than older parents (Mean Rank = 103.60) (U = 5188.500, p = .009)

Only three of seven tests show a statistically significant difference in parent age (Table 14), so the hypothesis H1 is rejected.

H2 - There is a statistically significant difference in parental protection of children on the Internet with respect to the gender of the parents

Questionnaire item	**Test results**	**Statistically significant**
1 - attended a lecture	χ^2 = 2.427, df = 2, p = .297	No
2 - independently looked for information	χ^2 = 1.160, df = 2, p = .560	No
3 - familiar with applications or tools	χ^2 = 4.055, df = 4, p = .399	No
4 - use parental control applications	χ^2 = 1.742, df = 2, p = .418	No
5 - use built-in parental control	χ^2 = .724, df = 4, p = .605	No
6 - adequately protecting	χ^2 = 2.846, df = 4, p = .584	No
7 - enough attention	U = 2883, p = .161	No

Test results for hypothesis H2 (Table 15)

None of the tests show a statistically significant difference with respect to the gender of the parents (Table 15), so the hypothesis H2 is rejected.

H3 - There is a statistically significant difference in parental protection of children on the Internet with respect to the parents' place of residence

Questionnaire item	**Test results**	**Statistically significant**
1 - attended a lecture	χ^2 = 1.742, df = 1, p = .187	No
2 - independently looked for information	χ^2 = .277, df = 1, p = .599	No
3 - familiar with applications or tools	χ^2 = .519, df = 2, p = .772	No
4 - use parental control applications	χ^2 = .323, df = 1, p = .570	No

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5 - use built-in parental control	χ^2 = 3.307, df = 2, p = .191	No
6 - adequately protecting	χ^2 = 1.234, df = 2, p = .516	No
7 - enough attention	U = 4262.000, p = .003	Yes

Test results for hypothesis H3 (Table 16)

Parents who live in rural areas (Mean Rank = 136,39) are more likely to believe that they are paying enough attention to protecting their child online than parents who live in the city (Mean Rank=109,17) (U = 4262.000, p = .003)

Only one of seven tests shows a statistically significant difference with respect to the parents' place of residence (Table 16), so the hypothesis H3 is rejected.

H4 - There is a statistically significant difference in parental protection of children on the Internet with respect to the level of education of the parents

Questionnaire item	**Test results**	**Statistically significant**
1 - attended a lecture	χ^2 = 3.397, df = 1, p = .065	No
2 - independently looked for information	χ^2 = 1.286, df = 1, p =.257	No
3 - familiar with applications or tools	χ^2 = 5.008, df = 2, p = .082	No
4 - use parental control applications	χ^2 = 2.012, df = 1, p = .156	No
5 - use built-in parental control	χ^2 = 1.623, df = 2, p = .444	No
6 - adequately protecting	χ^2 = .442, df = 2, p = .802	No
7 - enough attention	U = 5379,500, p = .027	**Yes**

Test results for hypothesis H4 (Table 17)

Parents with a lower level of education (Mean Rank = 128,73) are more likely to believe that they are paying enough attention to protecting their child online than higher educated parents (Mean Rank = 109,62) (U = 5379.500, p = .027)

Only one of seven tests shows a statistically significant difference with respect to the parents' level of education (Table 17), so the hypothesis H4 is rejected.

H5 - There is a statistically significant difference in parental protection of children on the Internet with respect to the gender of the child

Questionnaire item	**Test results**	**Statistically significant**
1 - attended a lecture	χ^2 = .069, df = 1, p = .793	No
2 - independently looked for information	χ^2 = .051, df = 1 , p =.822	No
3 - familiar with applications or tools	χ^2 = 1.449, df = 2, p = .485	No
4 - use parental control applications	χ^2 = .944, df = 1, p = .331	No

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5 - use built-in parental control	$\chi^2 = 1.760$, df = 2, $p = .415$	No
6 - adequately protecting	$\chi^2 = 3.096$, df = 2, $p = .213$	No
7 - enough attention	U = 6166.000, $p = .373$	No

Test results for hypothesis H5 (Table 18)

None of the tests show a statistically significant difference with respect to the gender of the child (Table 18), so the hypothesis H5 is rejected.

Discussion

The results of the National Study on Children's Online Safety[37] showed that almost half of children aged 9 to 11, two-thirds of children aged 12 to 14, and three-quarters of children aged 15 to 17 can access the internet whenever they want or need to. The research conducted for this paper showed even more negative results, confirming that children are gaining access to the internet at increasingly earlier ages. The largest number of responses referred to the age range of three to five years, with 38.2% of parents stating that this was when their child first accessed the internet. Slightly fewer parents (27.9%) reported that their child first accessed the internet between the ages of six and seven, while 12% stated that this occurred at eight or nine years of age. Among parents, 18.9% reported that their child first accessed the Internet before age three, while only a small proportion reported that their child first accessed the Internet at 10 or 11 years of age. A total of 0.9% of parents claimed that their child still does not have access to the Internet.

That there is nothing positive about this, particularly for primary school children, is also demonstrated by data from a study conducted by the ERF in 2023,[38] which found that 51.6% of primary school pupils experienced someone saying unpleasant things about them via the internet or messages, while 29% of pupils admitted to being perpetrators of such behaviour. 32.3% of primary school pupils reported experiencing online rumours about themselves, while 16.8% admitted spreading them. 29.9% of respondents admitted excluding or ignoring someone on social media, while 41.3% of pupils experienced this. Parents play the most essential role in protecting children; therefore, this study also included questions about inappropriate content and online violence. In this context, 74.2% of parents stated that their child would turn to them if they encountered inappropriate content, and a similarly high proportion of respondents (91.4%) stated that their child had not experienced any form of online violence. In comparison, 5.2% of parents did not know.

On the other hand, the National Study on Children's Online Safety[39] showed that, out of 982 respondents, 40.9% claimed that their children had confided in them and sought help when something had upset them, while 55% of

[37] CIBOCI, 2020.
[38] HRVATSKA RADIOTELEVIZIJA, 2024.
[39] CIBOCI, 2020.

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children had never talked to their parents or guardians about something that bothered or upset them online.

In addition to online violence, addiction, and the use of social networks are also problems. The study mentioned in this paper's introduction, conducted by the ERF,[40] shows that 40% of pupils use social networks for more than three hours a day during the week. Between three and five hours a day are spent on social networks by 28.5% of pupils, while 11.7% spend more than five hours a day. The research conducted for this master's thesis showed that 70.4% of respondents reported that their child does not use social networks, while 29.6% reported that their child does. Unlike the study conducted by Ciboci et al., which showed that Facebook was the most commonly used social network among children aged 9 to 17, followed by Instagram,[41] respondents in this study most frequently stated that the social network used was WhatsApp (15.9%), followed by Viber (15.9%). The next highest percentage indicated that children use Snapchat and TikTok.

Parents are those who should and can protect their children online, and how and to what extent they actually do so is shown by the results of this study. It showed that 87.1% of respondents (N = 233) know what their child is doing online, while 11.6% know only occasionally. A tiny proportion of respondents (1.3%) do not know what their child is doing online. Furthermore, a large percentage of respondents (90.6%) stated that they completely agree with the claim that they need to know what their child is doing online. Similar results were obtained by Ivančić,[42] who found that 80.3% of respondents (N = 300) reported monitoring their children's Internet use, while only 9% reported not having parental supervision over their children's Internet use. On the other hand, the study showed that, out of the total number of respondents (N = 233), 64.4% of parents know which parental control applications exist to protect children online, and 21% responded that they might know. In comparison, 14.6% of parents do not know which parental control applications are available. Similar results were obtained by Marić,[43] who found that of 82 responses, 78% of parents reported knowing that parental control applications existed, while 22% did not. Likewise, a study by the Internet Matters Team[44] found that the vast majority of parents (93%) are familiar with at least one type of parental control.

Accordingly, the study also examined how much parents, given their level of awareness, actually use parental control applications. In contrast to a 2019 study by A1 Hrvatska,[45] which showed that 92% of parents do not use applications for child protection and safe access, and that 93% stated they do not wish to use them, the research conducted for this master's thesis showed that more than half of respondents (61.8%) use some form of parental control application, while 38.2% do not use any. Similar results were obtained by Bošnjak,[46] who found that 63.6% of respondents use parental control tools, while 36.4% do not.

[40] HRVATSKA RADIOTELEVIZIJA, 2024.
[41] CIBOCI, 2017.
[42] IVANČIĆ, 2021.
[43] MARIĆ, 2022.
[44] INTERNET MATTERS, 2023.
[45] 24SATAa, 2019.
[46] BOŠNJAK, 2024.

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A study conducted by Kaspersky[47] also found that almost half of respondents (48%) use parental control applications, and 45% regularly check their children's browsing history. Moreover, 51% of parents stated that their children use digital devices under parental (42%) or family member (9%) supervision. The Internet Matters Team[48] also reported positive results, showing that 81% use some form of parental control, while only 19% are aware of parental control options but do not use them. Given that more than half of respondents use parental control tools, a question was also posed regarding which application or parental control option they use. The study showed that the largest proportion of parents (75.8%) chose Google Family Link. The second most common choice was YouTube Kids, selected by 32.7% of parents. A small number of parents (5.6%) chose Screen Time as a protective measure for their child, while only 0.7% selected Mobicip. Other responses that were not offered as options included Apple Family (0.7%), Kids Lock (0.7%), Kids360 (0.7%), and Qustodio (1.4%). Similar results were obtained by Bošnjak,[49] who found that 81.3% of respondents most often use Google Family Link, followed by Find My Kids, GPS Tracker, Find My Kid Pingo, Google Family, Locator 24, Life360, and iPhone Family Sharing. Research conducted by Marić[50] also yielded similar results, with respondents identifying Google Family Link, YouTube Kids, Family Keeper, Qustodio, Mobicip, and Mama Bear as well-known applications. Among the known applications, respondents most frequently reported using Google Family Link, Family Keeper, antivirus programmes, and their own "physical" supervision. In addition to parental control applications, parents can use protection or restriction features built into device operating systems. The extent to which these are used is shown by the results of this study: 46.4% of respondents confirmed using built-in parental control or restriction features, 48.1% do not use them, and 1.3% do not know whether they use them. In Bošnjak's study, some respondents also stated that they use user accounts, parental controls on mobile phones, and parental protection that prevents a child from installing anything without the parent entering a password. Similar results were reported by Marić,[51] who found that respondents identified specific settings offered by mobile devices themselves as parental protection, such as Screen Time and password settings.

In addition to the research results presented, five hypotheses were formulated for the study. However, the results showed no statistically significant differences in parental protection of children by age, gender, place of residence, or level of education. These results are consistent with the findings of a study conducted in 2014 by Dumančić et al.,[52] which also showed that there is no statistically significant difference in parents' level of education regarding children's online protection with respect to parents' age, gender or educational attainment, and that parents in urban areas are better educated about children's online protection than

[47] KASPERSKY, 2021.
[48] INTERNET MATTERS, 2023.
[49] BOŠNJAK, 2024.
[50] MARIĆ, 2022.
[51] Ibid.
[52] DUMANČIĆ, 2014.

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parents in rural areas. Furthermore, Ivančić[53] found that parents monitor Internet use more closely for female children. In her study, as well as in the present study, results showed that parental attitudes on this issue are most often neutral. This was demonstrated by 48.7% of respondents who neither agreed nor disagreed with the statement, while a larger proportion of parents (30.7%) disagreed. This result is also confirmed by the findings of this master's thesis, in which, as already mentioned, the fifth hypothesis was rejected, as no statistically significant difference in parental protection of children was found with respect to the child's gender.

Conclusion

This study confirmed previous research and showed that there is no statistically significant difference in parental protection of children on the internet concerning parents' age, gender, place of residence, level of education, or their child's gender. Consequently, all research hypotheses were rejected. The most remarkable statistically significant difference is evident in responses to the question of whether parents believe they devote sufficient attention to protecting their child online. Regarding age, younger parents are more likely to believe they devote adequate attention to protecting their child than older parents. The same view is held by parents living in rural areas and by those with lower levels of education. A worrying finding of the study is that more than half of respondents (61.4%) stated that their child has their own mobile device; it should be emphasised that these are children attending the first to fourth grades of primary school. Likewise, respondents stated that their child first accessed the Internet between the ages of three and five, and received their first digital device before starting the first grade (between six and seven years of age). Accordingly, it might be expected that parents are mainly familiar with and actively use parental control measures for children's online activities; however, the research data showed that only slightly more than half of respondents (61.8%) use a parental control application. Parental protection of children online is a crucial topic. It should be discussed more frequently within the parenting community through the organisation of lectures and workshops to raise parents' awareness of the dangers of the internet and social networks, as well as the overall importance of protecting children online.

It is necessary to accept the fact that children today grow up with the Internet and that it is impossible to avoid its use; however, if they already use it, they should be provided with safe access to the information they need. It is essential to prevent the development of addiction, as well as the possibility of them becoming victims or perpetrators of violence on social networks. For this very reason, parents should educate themselves as much as possible about parental controls, the available applications, and the options for protecting their children online. Consequently, children should also be educated about the dangers that lurk on the internet, so that, together with their parents, they can protect themselves. There can never be too many warnings, safeguards, or education about that.

[53] IVANČIĆ, 2021.

DOI: 10.55072/DN.2026.1.73

References

24sata: *5 koraka za bolju sigurnost djece na internetu. [Five steps for better children's online safety].* 2019. https://www.24sata.hr/native-sadrzaj/5-koraka-za-bolju-sigurnost-djece-na-internetu-644631

24sata: *Neprimjerena slika na internetu može ostaviti posljedice na dijete. [Inappropriate images online can leave consequences for a child].* 2019. https://www.24sata.hr/promo-sadrzaj/neprimjerna-slika-na-internetu-moze-ostaviti-posljedice-na-dijete-624801

Bernarda BOŠNJAK: *Stavovi, znanje i informacijske potrebe roditelja o dječjem korištenju medija i digitalnih uređaja.* [*Parents' attitudes, knowledge, and informational needs regarding children's use of media and digital devices.]* Master's thesis, University of Josip Juraj Strossmayer in Osijek, Faculty of Humanities and Social Sciences, 2024. https://repozitorij.ffos.hr/islandora/object/ffos%3A6954/datastream/PDF/view2

Lana CIBOCI–Ivana ĆOSIĆ PREGRAD–Igor KANIŽAJ–Dunja POTOČNIK–Dejan VINKOVIĆ: *Nacionalno istraživanje o sigurnosti djece na internetu: HR Kids Online. [National study on children's online safety: HR Kids Online].* 2020. https://hrkids.online/prez/EUKidsOnlineHRfinal.pdf2

Martina ČIŽMIĆ: *Više od 90 posto roditelja u Hrvatskoj ne zna što im djeca rade na internetu.* [*More than 90 percent of parents in Croatia do not know what their children do online].* Zimo, 2019. https://zimo.dnevnik.hr/clanak/vise-od-90-posto-roditelja-u-hrvatskoj-ne-zna-sto-im-djeca-rade-na-internetu-557156.html

Dora DODIG HUNDRIĆ–Neven RICIJAŠ–Monika VLČEK: *Mladi i ovisnost o internetu: Pregled suvremenih spoznaja. [Young people and internet addiction: A review of contemporary findings].* *Časopis za psihologiju,* 2018/1. (54.), 123–137. https://hrcak.srce.hr/file/300090

Državni zavod za statistiku: *Primjena informacijskih i komunikacijskih tehnologija (IKT) u kućanstvima i kod pojedinaca u 2024. [Use of information and communication technologies (ICT) in households and by individuals in 2024].* 2024. https://podaci.dzs.hr/2024/hr/76943

Mario DUMANČIĆ–Martina ŠTIBRIĆ–Vesna MARKOVAC: *Educiranost roditelja o zaštiti djece na internetu [Parents' level of education regarding children's online protection].* In *14. Dani Mate Demarina: Suvremeni izazovi teorije i prakse odgoja i obrazovanja. [14th Mate Demarin Days: Contemporary challenges of educational theory and practice].* University of Zagreb Faculty of Teacher Education, 2014. 71–79.

Hrvatska radiotelevizija: *Istraživanje: 40% djece na društvenim mrežama više od tri sata dnevno. [Study: 40% of children spend more than three hours a day on social media].* 2024. https://magazin.hrt.hr/znanost-tehnologija/istrazivanje-40-posto-djece-na-drustvenim-mrezama-vise-od-tri-sata-dnevno-1177-4768

Internet Matters: *Research tracker: Awareness and usage of parental controls.* 2023. https://www.internetmatters.org/hub/news-blogs/research-tracker-awareness-usage-parental-controls/

DOI: 10.55072/DN.2026.1.73

Martina IVANČIĆ: *Znanje i stavovi roditelja o digitalnim navikama njihove djece. [Parents' knowledge and attitudes regarding their children's digital habits]*. Master's thesis, University of Zagreb, Faculty of Croatian Studies, 2021. https://repozitorij.hrstud.unizg.hr/islandora/object/hrstud%3A2655/datastream/PDF/view

Joško JURMAN–Vlatka BORIČEVIĆ MARŠANIĆ–Ljubica PARADŽIK–Ljiljana KARAPETRIĆ BOLFAN–Svebor JAVORNIK: *Ovisnost o internetu i video igrama [Addiction to the internet and video games]*. Socijalna psihijatrija, 2017/1. (45.), 36–42. https://hrcak.srce.hr/178945

Kaspersky: *Freedom and responsibility: 48% of parents use parental control apps*. 2021. https://www.kaspersky.com/about/press-releases/freedom-and-responsibility-48-of-parents-use-parental-control-apps

Ivana LAGATOR–Danijela ŠINCEK–Ivana DUVNJAK: *Roditeljski nadzor i ponašanje djevojčica i dječaka na internetu. [Parental supervision and the online behaviour of girls and boys]. Filozofski fakultet Sveučilišta Josipa Jurja Strossmayera u Osijeku* [Faculty of Humanities and Social Sciences, University of Josip Juraj Strossmayer in Osijek]. 2018. https://hrcak.srce.hr/file/320613

Ana LONJAK: *Ne diraj! Opasno igralište novog doba: Dijete nosi svog zlostavljača u džepu, nema odmaka ni sigurnog mjesta* [Don't touch! The dangerous playground of a new era: A child carries their abuser in their pocket, with no escape or safe place]. Dnevnik.hr. 2024. https://dnevnik.hr/vijesti/hrvatska/ne-diraj-opasno-igraliste-novog-doba-dijete-nosi-svog-zlostavljača-u-džepu-nema-odmaka-ni-sigurnog-mjesta-880677.html

Ivona MARIĆ: *Roditeljska kontrola i zaštita djece u virtualnom svijetu. [Parental control and protection of children in the virtual world]*. Master's thesis, University of Slavonski Brod, 2022. https://repozitorij.unisb.hr/islandora/object/unisb:1170

Andjela NIKOLIĆ: *Najbolje aplikacije za roditeljsku kontrolu. [Best parental control applications]*. vpnMentor, 2020. https://hr.vpnmentor.com/blog/najbolje-aplikacije-za-roditeljsku-kontrolu

Laura PAJUELO: *Todos los dispositivos con Internet tendrán que contar con control parental gratuito: Estos son los que ya puedes usar*. [*All internet-enabled devices will be required to include free parental controls: These are the ones you can already use]*. El País. 2025. https://elpais.com/tecnologia/2025-04-09/todos-los-dispositivos-con-internet-tendran-que-contar-con-control-parental-gratuito-estos-son-los-que-ya-puedes-usar.html

Michelle PONTI: *Digital media: Promoting healthy screen use*. Canadian Paediatric Society, 2019. https://cps.ca/en/documents/position/digital-media

Maja RAVNIĆ RADOLA: *Sigurnost i zaštita djece na internetu. [Safety and protection of children on the internet.]* [Master's thesis, Juraj Dobrila University of Pula]. 2024. https://repozitorij.unipu.hr/islandora/object/unipu%3A9100/datastream/PDF/view

Petra ROBOTIĆ: *Zamke virtualnog svijeta: Zaštita djece i mladih na internetu i prevencija ovisnosti. [Traps of the virtual world: Protecting children and young people online and preventing addiction]*. JAHS, 2015/2. (1.), 81–96. https://hrcak.srce.hr/file/240160

DOI: 10.55072/DN.2026.1.73

Školski portal: *9 roditeljskih aplikacija za nadzor djece na internetu i pametnim uređajima. [Nine parental applications for monitoring children on the internet and smart devices].* 2018. https://www.skolskiportal.hr/sadrzaj/zanimljivosti/9-roditeljskih-aplikacija-za-nadzor-djece-na-internetu-i-pametnim-uredajima/

UNICEF: *Stanje djece u svijetu 2017: Djeca u digitalnom svijetu*. [*The state of the world's children 2017: Children in a digital world].* 2017. https://www.unicef.org/croatia/media/691/file/Stanje%20djece%20u%20svijetu%202017.%20%E2%80%93%20Djeca%20u%20digitalnom%20svijetu%20.pdf

University of Zagreb Faculty of Education and Rehabilitation Sciences, Croatian Telecom: *Tools for the Modern Age,* 2024. https://www.hrvatskitelekom.hr/ht-grupa/en/responsibility/tools

Absztrakt

Ez a tanulmány a Horvát Köztársaságban az alsóbb osztályokba járó gyermekek szülei körében végzett felmérés eredményeit mutatja be, amely a gyermekek internetes szülői védelmét és a szülői felügyeleti alkalmazások használatát vizsgálta. A felmérés célja a szülők hozzáállásának feltárása volt gyermekeik online töltött idejéhez, védelméhez, valamint ahhoz, hogy a szülők biztosítják-e és hogyan biztosítják gyermekeik biztonságát az interneten. A felmérést névtelenül, egy 34 kérdést tartalmazó online kérdőív segítségével végezték. Összesen 235 szülő vett részt a felmérésben, közülük 14,6%-a férfi és 85%-a nő volt, míg 0,4%-uk úgy döntött, hogy nemet mond a kitöltésre. Az eredmények azt mutatták, hogy a gyermekek internetes szülői védelmében nincs statisztikailag szignifikáns különbség a szülők életkora, neme vagy lakóhelye tekintetében. Hasonlóképpen, nem találtak statisztikailag szignifikáns különbséget a szülők iskolai végzettsége vagy a gyermek neme alapján sem.

Kulcsszavak: internet, függőség, gyermekek, szülők, szülői védelem

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Šego, Jasna–Rosandić, Željka

MOTIVACIJSKI GOVORI OPRAH WINFREY I DINKE JURIČIĆ: RETORIČKO-DISKURZIVNA ANALIZA TEMA SREĆE, ZAHVALNOSTI I SLOBODE

Uvod

U posljednjim desetljećima motivacijski govori postali su važan dio suvremenoga javnog diskursa, bilo u obliku TED i TEDx govora, bilo u nastupima slavnih osoba u medijskom i obrazovnom kontekstu. Motivacijski govornici pritom spajaju klasične retoričke strategije sa spoznajama suvremene psihologije, osobito pozitivne psihologije, koja se u hrvatskom kontekstu sustavnije profilira od sredine 2000-ih, u popularnim i znanstvenim publikacijama usmjerenim na ljudsku snagu, subjektivnu dobrobit i sreću.[1] U takav se kontekst uklapaju dva odabrana govora – predmeti našega istraživačkoga interesa – govor Oprah Winfrey,[2] koji tematizira sreću kao životni izbor, zahvalnost i unutarnji mir, te TEDx govor Dinke Juričić,[3] u kojemu govornica, polazeći od konkretnih životnih priča svojih gostiju, poziva publiku na hrabro napuštanje rutine i preuzimanje odgovornosti za vlastiti život.

Usprkos popularnosti motivacijskih govora, u hrvatskoj znanstvenoj literaturi malobrojna su istraživanja koja se sustavno bave tim žanrom. Dosadašnji radovi usredotočuju se ponajprije na motivacijske govore iz područja sporta i politike[4] te na širi odnos retorike i društva,[5] a motivacijski govori usmjereni na osobni rast, sreću i zahvalnost ostaju na rubu interesa, iako su u javnoj komunikaciji izrazito prisutni. Ovaj rad nastoji popuniti uočenu prazninu analizom i usporedbom motivacijskoga govora Oprah Winfrey i motivacijskoga govora Dinke Juričić, pri čemu se kombiniraju motrišta klasične retorike (etos, patos, logos) i pozitivne psihologije.

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[1] RIJAVEC, Majda–MILJKOVIĆ, Dubravka–BRDAR, Ingrid: *Pozitivna psihologija: znanstveno istraživanje ljudskih snaga i sreće*. IEP, Zagreb, 2008. (U daljnjem tekstu RIJAVEC–MILJKOVIĆ–BRDAR, 2008.); RIJAVEC, Majda: *Psihologija čije je vrijeme (ponovno) došlo*, Društvena istraživanja, 2006./3. 351–369. (U daljnjem tekstu RIJAVEC, 2006.); RIJAVEC, Majda: *Pozitivna psihologija 2*. IEP, Zagreb, 2019. (U daljnjem tekstu: RIJAVEC, 2019.).

[2] WINFREY, Oprah, *Be happy no matter what life throws at you!*, motivacijski govor, YouTube, 2025. https://www.youtube.com/watch?v=qyvpPGDZqe8 [16.01.2026.]. (U daljnjem tekstu WINFREY, 2025.).

[3] JURIČIĆ, Dinka, *Zgrabi život za rogove i dodaj gas!*, TEDxKarlovac, 2025. https://www.youtube.com/watch?v=PuZcPphtDko [16.01.2026.]. (U daljnjem tekstu JURIČIĆ, 2025.).

[4] KARLOVIĆ, Martina: *Retorička analiza ukrajinskih i hrvatskih sportskih motivacijskih govora*, diplomski rad. Filozofski fakultet Sveučilišta u Zagrebu, Zagreb, 2020. (U daljnjem tekstu KARLOVIĆ, 2020.); LUKŠIĆ, Sandra: *Retorička analiza dvaju motivacijskih govora u Hrvatskoj*, Govor, 2023./1. 83–107. (U daljnjem tekstu LUKŠIĆ, 2023.).

[5] KIŠIČEK, Gabrijela–STANKOVIĆ, Davor: *Retorika i društvo*. Naklada Slap, Zagreb, 2014. (U daljnjem tekstu KIŠIČEK–STANKOVIĆ, 2014.).

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Cilj je ovoga rada opisati i usporediti retoričke, tematske i neverbalne značajke motivacijskih govora Oprah Winfrey i Dinke Juričić, s naglaskom na način na koji se shvaćaju i tumače sreća, zahvalnost i sloboda. U skladu s tim postavljena su sljedeća istraživačka pitanja – P1: Kako govornice, polazeći iz različitih kulturnih konteksta (američkog i hrvatskog), retorički i tematski oblikuju sreću, zahvalnost i slobodu kao životni izbor? P2: Kojim se retoričkim sredstvima i neverbalnim strategijama služe kako bi pojačale motivacijski učinak govora? P3: U kojoj su mjeri u govorima zastupljeni etos, patos i logos?

Polazeći od dosadašnjih spoznaja iz područja retorike[6] i pozitivne psihologije,[7] u radu se provjeravaju sljedeće hipoteze:

- H1: U motivacijskim govorima Oprah Winfrey i Dinke Juričić patos dominira nad logosom.
- H2: Oprah Winfrey češće rabi metafore i personifikacije vezane uz unutarnja stanja (radost, svjetlo, zahvalnost), a Dinka Juričić preferira konkretne, „tjelesne“ i „putničke“ metafore („prtljaga“, „ispušni ventil“, „putovanje“).
- H3: Neverbalna komunikacija u oba govora prvenstveno je usmjerena na pojačavanje patosa (gestikulacija, mimika, kontakt očima).
- H4: Tematska struktura oba govora slijedi žanrovski stabilan obrazac motivacijskoga govora (uvod – priča – generalizacija – apel), ali kulturni kontekst dviju govornica djeluje na isticanje različitih vrijednosti. Oprah Winfrey snažnije ističe individualni rad na sebi, a Dinka Juričić zajednicu i međuljudsku solidarnost.

Teorijski okvir

Motivacijski govori kao žanr

„Ako se želi motivirati govorom, uvijek valja biti svjestan da je govornik ujedno i uzor. Ako se želi širiti entuzijazam, pozitivna energija, nada… tada i govornik mora pružiti primjer energije i angažiranosti koju želi postići kod svojih slušača.“[8] Motivacijski govor postavlja cilj, ujedinjuje publiku u njegovu dosezanju, pruža nadu.[9] U hrvatskoj se literaturi motivacijski govori najčešće analiziraju u kontekstu govora vezanih uz sport i politiku u kojima se istražuje kako govornici mobiliziraju publiku, kako grade zajednički identitet i potiču slušatelje na postizanje ciljeva,[10] a motivacijski govori usmjereni na osobni rast i dobrobit rijetko su predmet sustavnih analiza.

Govori Oprah Winfrey i Dinke Juričić tipični su primjeri motivacijskoga žanra u širem smislu: iako se pojavljuju u različitim kontekstima (medijski govor i TEDx govor), oba govora nastoje potaknuti publiku na preispitivanje vlastitih uvjerenja, na izlazak iz zone ugode i na prihvaćanje aktivnoga odnosa prema životnim izazovima.

[6] KIŠIČEK–STANKOVIĆ, 2014.; KARLOVIĆ, 2020.; LUKŠIĆ, 2023.
[7] RIJAVEC–MILJKOVIĆ–BRDAR, 2008.; RIJAVEC, 2006.; RIJAVEC, 2019.
[8] KIŠIČEK–STANKOVIĆ, 2014. 106–107.
[9] KIŠIČEK–STANKOVIĆ, 2014. 107.
[10] KARLOVIĆ, 2020.; LUKŠIĆ, 2023.

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Retorika etosa, patosa i logosa

U klasičnoj retoričkoj tradiciji Aristotel[11] razlikuje tri temeljna sredstva uvjeravanja: etos, patos i logos. Etos se odnosi na vjerodostojnost govornika, odnosno na dojam o njegovoj moralnosti, stručnosti i dobronamjernosti, patos se odnosi na pobuđivanje emocija u publici, a logos obuhvaća logičku strukturu govora (uzročno-posljedični slijed) te upotrebu argumenata i dokaza. U kontekstu motivacijskih govora etos i patos posebno dolaze do izražaja, jer publika prihvaća poticaje na promjenu onoliko koliko percipira govornika kao autentičnog svjedoka i koliko se emocionalno može poistovjetiti s njegovim iskustvima. Logos pak često poprima oblik narativno posredovanih „dokaza" i životnih primjera.[12]

Suvremena retorička istraživanja u hrvatskom kontekstu također se oslanjaju na te kategorije, nastojeći ih primijeniti u analizi konkretnih govora. Tako npr. Karlović[13] pokazuje kako se etos, patos i logos mogu pratiti u segmentima govora, bilježeći u kojim se dijelovima naglašava lik govornika, u kojima dominira emocionalno proživljavanje i u kojima se iznose argumenti i generalizacije.

U ovome se radu spomenute kategorije primjenjuju na analizu govora Oprah Winfrey i Dinke Juričić – prepoznaju se elementi uz pomoć kojih govornice grade svoj etos, emocije koje pobuđuju u slušateljima, tj. patos (npr. nadu, empatiju, hrabrost) te logičke veze kojima se služe u objašnjavanju životnih promjena.

Pozitivna psihologija sreće i zahvalnosti

Pozitivna psihologija usmjerava se na proučavanje ljudskih snaga, vrlina i uvjeta koji doprinose čovjekovoj subjektivnoj i psihološkoj dobrobiti, za razliku od tradicionalnog usmjeravanja psihologije na čovjekove poremećaje i nedostatke. U hrvatskom kontekstu ključni pojmovi pozitivne psihologije (subjektivna dobrobit, sreća, otpornost, zahvalnost) obrađeni su u znanstvenim monografijama,[14] popularno-znanstvenim priručnicima[15] koji sustavno prikazuju teorijske temelje i praktične primjere u tom području. Sreća se npr. shvaća kao višedimenzionalni pojam koji obuhvaća pozitivne emocije, angažiranost, kvalitetne odnose, smisao i postignuća, a zahvalnost se opisuje kao emocionalni i kognitivni stav u kojemu osoba svjesno prepoznaje i vrednuje pozitivne aspekte vlastitoga života.

Modeli poput PERMA naglašavaju da trajna dobrobit proizlazi iz uravnotežene kombinacije pet sastavnica: pozitivnih emocija (***p**ositive emotion*), angažiranosti (***e**ngagement*), kvalitetnih odnosa (***r**elationships*), smisla (***m**eaning*) i postignuća (***a**ccomplishment*). U okviru takvoga razumijevanja dobrobiti, brojni poticaji pozitivne psihologije temelje se upravo na prakticiranju zahvalnosti, primjerice vođenju „dnevnika zahvalnosti" u koji se svakodnevno bilježe mali, ali znač-

[11] ARISTOTEL: *Retorika*. Naprijed, Zagreb, 1989.
[12] KIŠIČEK–STANKOVIĆ, 2014. 106–108.
[13] KARLOVIĆ, 2020.
[14] RIJAVEC–MILJKOVIĆ–BRDAR, 2008.
[15] RIJAVEC, 2006.; RIJAVEC, 2019.

DOI: 10.55072/DN.2026.1.99

ajni pozitivni doživljaji (čime se potiče usmjerenost na ono što je u životu dobro, a ne samo na teškoće).[16]

Oprah Winfrey u govoru *Be happy no matter what life throws at you* (*Budi sretan bez obzira na to što ti život donese*) potiče publiku da vodi „listu zahvalnosti" za male, svakodnevne darove (*topao čaj, dječji smijeh*), ističući da takva praksa „reprogramira um" i pomaže u održavanju radosti usprkos životnim teškoćama. Motivacijski govor tako postaje kanal kojim se temeljne ideje pozitivne psihologije prenose široj javnosti u obliku metafora i osobnih priča, a pritom se oslanja i na temeljne procese motivacije – postavljanje ciljeva, očekivanje uspjeha i doživljaj osobne kontrole – koji imaju ključnu ulogu u pokretanju i održavanju „pozitivnog" ponašanja.[17]

Neverbalna komunikacija u motivacijskim govorima

„Negovorna komunikacija obuhvaća izraze lica, geste, kontakt očima, udaljenost, dodire, mirise i druge negovorne činove."[18] U javnom govoru ona snažno oblikuje percepciju govornikove vjerodostojnosti i emocionalni doživljaj poruke. Istraživanja pokazuju da publika često više pamti način na koji je poruka izrečena nego njezin doslovni sadržaj–primjerice, otvorene geste i čest govornikov kontakt očima s publikom stvaraju dojam topline i autentičnosti, dok zatvoreni stav može signalizirati distancu. Motivacijski se govornici stoga svjesno ili nesvjesno koriste neverbalnim sredstvima kako bi pojačali patos i učvrstili etos.

Za cjelovit je opis motivacijskoga govora, naravno, nužno analizirati verbalnu i neverbalnu govornu sastavnicu. U ovom ćemo radu stoga analizirati verbalne (sadržaj–teme, motivi, poruke) i neverbalne (gestikulacija, mimika, kretanje po pozornici, modulacija glasa, govorne vrednote) elemente govora Oprah Winfrey i Dinke Juričić.

Savjeti o govoru i javnim nastupima u suvremenim priručnicima

U analizi motivacijskih govora korisno je osloniti se i na savjete suvremenih priručnika o govorništvu i javnom nastupu. Jasna Šego ističe da pri vrednovanju govora treba voditi računa o nizu elemenata: sadržaju (zanimljivost, informativnost, aktualnost, primjerenost trenutku), kompoziciji, logičnosti, poetičnosti (retoričke figure), glasu (naglasci, jačina, visina), uporabi stanki, gestama, mimici, osjećaju za vrijeme, empatiji te odjeći kao odrazu osobnosti.[19] Većinu tih kriterija primjenjujemo u ovome radu u prikazu sadržajnih, kompozicijskih i izvedbenih obilježja govora O. Winfrey i D. Juričić.

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[16] BOGADI, Marko: *Put do sreće popločan je dobrim kritikama? Pozitivna psihologija i njezin razvoj*, Psychē, 2025/1. 7–40.
[17] REEVE, Johnmarshall: *Razumijevanje motivacije i emocija*. Naklada Slap, Jastrebarsko, 2010. (U daljnjem tekstu REEVE, 2010.).
[18] ŠEGO, Jasna: *Kako postati uspješan govornik*. Profil, Zagreb, 2005. 123. (U daljnjem tekstu ŠEGO, 2005.)
[19] ŠEGO, 2005. 145.

DOI: 10.55072/DN.2026.1.99

Ivo Škarić savjetuje oblikovanje govora prema sljedećoj shemi: „*1. pronalaženje – prikupljanje, 2. raspoređivanje, 3. sastavljanje, 4. zapamćivanje i 5. izricanje*.[20]

Mirela Španjol Marković naglašava da su ciljevi svakog uvjeravajućeg govora informirati, zabaviti i pokrenuti publiku, pri čemu se informiranje ostvaruje iznošenjem podataka i argumenata, zabavljanje primjerima, pričama i slikama, a pokretanje motivirajućim tonom, karizmom i izborom riječi.[21] U motivacijskim govorima Oprah Winfrey i Dinke Juričić jasno se prepoznaje nastojanje da se ti ciljevi ostvare kombinacijom pripovijedanja (katkad s primjesama humora) i poziva slušateljima (publici) na djelovanje.

Priručnici Mauda Winklera i Anke Commichau[22] te Deba Gottesmana i Buzza Maura[23] naglašavaju važnost unutarnje jasnoće i scenske izvedbe. Winkler i Commichau polaze od postavke da vanjska jasnoća pretpostavlja unutarnju jasnoću govornika,[24] a Gottesman i Mauro naglašavaju da se publika osvaja činjenicama, primjerima, pričama, slikama i brojčanim podacima, ali i djelovanjem na emocije.[25] To je posebno relevantno u analizi načina na koji se u oba govora – govora O. Winfrey i D. Juričić kombiniraju racionalne i emocionalne strategije.

Ana Nuša Knežević naglašava govor tijela kao pokazatelja misli i osjećaja: mimika, pogled, stav, pokreti ruku, „prostor“ i odjeća važna su komunikacijska sredstva.[26] Njezini uvidi primjenjuju se u analizi neverbalnog ponašanja obiju govornica, osobito osmijeha, pogleda i gesta.

Valja napokon istaknuti i stavove autora Chrisa Andersona[27] i Nathana Cricka[28] koji doprinose suvremenom razumijevanju javnoga govora na globalnoj sceni. Anderson naglašava važnost „niti vodilje“ – središnje ideje koja povezuje sve elemente govora – te načelo „manje je više“ u govornoj izvedbi, kao i ključnu ulogu pripovijedanja, povezivanja s publikom i pažljivo osmišljenog početka i završetka.[29] Crick pak naglašava retoričko javno govorenje kao društveno i političko djelovanje, u kojem govornik usmjerava pozornost na pitanja/teme koje

[20] ŠKARIĆ, Ivo: *U potrazi za izgubljenim govorom*. Školska knjiga, Zagreb, 1988. 74. (U daljnjem tekstu ŠKARIĆ, 1988.)
[21] ŠPANJOL MARKOVIĆ, Mirela: *Moć uvjeravanja. Priručnik za učenje retorike i javnog nastupa. Govorništvo za menadžere (i one koji to žele postati)*. Profil International, Zagreb, 2008. 86. (U daljnjem tekstu ŠPANJOL MARKOVIĆ, 2008.)
[22] WINKLER, Maud–COMMICHAU, Anka: *Komunikacijsko-psihološka retorika. Kako dobro – javno govoriti, izlagati, prezentirati*. Erudita, Zagreb, 2008. (U daljnjem tekstu WINKLER–COMMICHAU, 2008.)
[23] GOTTESMAN, Deb–MAURO, Buzz: *Umijeće javnog nastupa. Osvojite govornicu koristeći se glumačkim vještinama*. Naklada Jesenski i Turk, Zagreb, 2006. (U daljnjem tekstu GOTTESMAN–MAURO, 2006.)
[24] WINKLER–COMMICHAU, 2008.
[25] GOTTESMAN–MAURO, 2006.
[26] KNEŽEVIĆ, Ana Nuša: *A što s maslinom? Pravila ponašanja i govor tijela*. Mozaik knjiga, Zagreb, 2003. (U daljnjem tekstu KNEŽEVIĆ, 2003.).
[27] ANDERSON, Chris: *TED govori. Službeni TED priručnik za javne govore*. Stilus knjiga, Zagreb, 2025. (U daljnjem tekstu ANDERSON, 2025.).
[28] CRICK, Nathan: *Rhetorical Public Speaking*. Routledge, Taylor and Francis Group, London – New York, 2016. (U daljnjem tekstu CRICK, 2016.).
[29] ANDERSON, 2025.

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traže promjenu.[30] Spomenuta se shvaćanja i upute koriste u interpretaciji strukture i ciljeva motivacijskih govora O. Winfrey i D. Juričić.

Metodologija

Korpus

Korpus istraživanja u ovome radu čine dva motivacijska govora: govor Oprah Winfrey *Be happy no matter what life throws at you*[31] *(Budi sretan bez obzira na to što ti život donese)* te TEDx govor Dinke Juričić *Zgrabi život za rogove i dodaj gas!*[32] Govor Dinke Juričić održan je u okviru TEDx događanja u Gradskoj knjižnici u Karlovcu i dostupan je u obliku videoprezentacije na YouTubeu. Govor Oprah Winfrey također se nalazi u obliku motivacijskoga videa na platformi YouTube. Oba govora odabrana su zbog jasnog motivacijskog cilja, tematskog usmjerenja na sreću, zahvalnost i suočavanje s izazovima te zbog audiovizualne dostupnosti koja omogućuje istodobnu analizu verbalnih i neverbalnih elemenata.

Za potrebe analize navedenih govora izradili smo transkripte, podijelili ih na kraće retoričke cjeline (scene), tako da svaka promjena teme, narativnoga primjera ili retoričke funkcije predstavlja zasebnu jedinicu analize. Takav pristup omogućuje precizno povezivanje teksta s neverbalnim obilježjima zabilježenima pri gledanju audiovizualnih zapisa.

Analitičke kategorije

Analitički okvir govora O. Winfrey i D. Juričić obuhvaća nekoliko kategorija. Prvo, izdvojili smo tematske kategorije koje su u oba govora prepoznate kao središnje: sreća, zahvalnost, sloboda, „prtljaga“ (prošlost i tereti), „ispušni ventil“, zajednica i autonomija. Drugo, popisali smo retoričke figure: metafore, personifikacije, anafore, ponavljanja, kontraste i retorička pitanja, tj. za svaku smo figuru zabilježili konkretne primjere i njihovu retoričku funkciju (npr. pojačavanje ritma, emocionalna identifikacija, naglašavanje ključne poruke). Treće, u svakom segmentu govora odredili smo dominantni retorički apel (etos, patos ili logos), uz mogućnost bilježenja sekundarnog apela kada su dva sloja podjednako izražena. Etos se identificira ondje gdje govornice govore o vlastitu životu, uvjerenjima ili vrijednostima, patos ondje gdje je naglasak na pobuđivanju emocija (npr. priče o gubicima, strahu, hrabrosti), a logos ondje gdje se iznose općenitije tvrdnje i generalizacije potkrijepljene primjerima. Četvrto, analizirali smo neverbalne elemente: geste (otvoreni dlanovi, pokazivanje na sebe, širenje ruku), mimiku (osmijeh, ozbiljan izraz, podignute obrve), kontakt očima, kretanje po pozornici, govorni tempo, stanke i promjenu glasnoće.

[30] CRICK, 2016.
[31] WINFREY, 2025.
[32] JURIČIĆ, 2025.

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Tijek analize govora O. Winfrey i D. Juričić

Analizu govora O. Winfrey i D. Juričić proveli smo u nekoliko faza. U prvoj smo fazi transkribirali govore te smo ih podijelili na retoričke cjeline. U drugoj smo fazi proveli tematsko i retoričko kodiranje (u svakom smo segmentu označili pripadajuće teme, retoričke figure i dominantni retorički apel), te smo rezultate toga kodiranja unijeli u. U trećoj smo fazi (pri ponovnom gledanju govora D. Juričić, odnosno slušanju govora O. Winfrey) zabilježili i analizirali neverbalne elemente – geste, mimiku, kontakt očima, kretanje po pozornici i promjene u vokalnoj izvedbi govora D. Juričić (osobito u trenucima emocionalnih vrhunaca i završnih apela). Dobivene smo podatke upisali u tablice (iz kojih je vidljivo da neverbalna komunikacija pojačava ili pak modulira verbalne poruke). Analizu govora O. Winfrey provele smo samo na temelju slušanja.[33] U četvrtoj smo fazi usporedili govore O. Winfrey i D. Juričić – učestalost i funkciju tematskih kategorija, retoričkih figura i apela te smo uočili (i interpretirali) njihove sličnosti i razlike u svjetlu retorike, pozitivne psihologije i kulturnoga konteksta.

Analiza govora Dinke Juričić

Tematske preokupacije i poruke

Govor Dinke Juričić *Zgrabi život za rogove i dodaj gas!* strukturira se oko niza autobiografski obojenih životnih priča koje ilustriraju imperativ odvažnog odbacivanja „prtljage“ – emocionalnih i materijalnih tereta – čime se otvara prostor za slobodnije i autentičnije življenje.

Uz pomoć konkretnih likova u životnim pričama (odgojitelja pred mirovinom Paula, avanturista Johannesa, obitelji Hozé, starijega belgijskog para, profesorice Fride i gospođe Karmen), govornica dokazuje da su životni zaokreti mogući u bilo kojoj životnoj dobi i u bilo kojim okolnostima, pod uvjetom da su protagonisti tih događaja hrabri, spremni na rizike i na napuštanje rutine.

Središnja tematska okosnica govora d. Juričić ogleda se u nužnosti odbacivanja nepotrebne „prtljage“ radi novih početaka. Paulova odluka da proda i daruje imovinu (svodeći život na ono što stane u „bisage bicikla“) utjelovljuje ideju o važnosti materijalnog rasterećenja kao preduvjeta čovjekove slobode i sreće. Odgojitelj pronalazi „ispušni ventil“, tj. bori se protiv stresa veslajući u kajaku. Johannesova priča o odustajanju „od načina, ali ne i od ideje“ putovanja (nakon moždanog udara) naglašava važnost čovjekove prilagodljivosti okolnostima i ustrajnosti u ostvarivanju svojih snova. Epizode o Fridi i belgijskom paru tematiziraju važnost čovjekove samostalnosti u starosti, međugeneracijske odnose i čovjekovo pravo na samoodlučivanje (čime se suptilno naglašava problematika čovjekove usamljenosti i potrebe za solidarnosti te element patosa). Druga je tematska okosnica govora D. Juričić usmjerena na afirmiranje vrijednosti zajednice i međuljudske solidarnosti. Govornica sebe samu pozicionira kao subjekta koji „treba ljude“, „njihove priče i snove“, čime promiče životni stil utemeljen na otvorenosti, empatiji i uzajamnoj potpori (nasuprot individualističkoj izolaciji).

[33] Na platformi YouTube dostupna je samo auditivna verzija govora O. Winfrey.

DOI: 10.55072/DN.2026.1.99

Ideja o zajedničkom stanovanju u starijoj dobi (Karmen i zajednica u Šarengradu) usmjerena je na eksplicitna rješenja protiv samoće i egzistencijalne nesigurnosti, naglašujući da se radostan i kvalitetan život može ostvarivati i nakon mirovine. Završna poruka govora *Zgrabi život za rogove i dodaj gas!* ističe misao o aktivnom, hrabrom pristupu izazovima i preuzimanju osobne odgovornosti za sreću, u skladu s Reeveovim[34] konceptom unutarnje kontrole.

Retorička sredstva i struktura govora

Retorička struktura govora slijedi klasični obrazac motivacijskoga govora[35] – uvod s povezivanjem, kontekst, ključni pojmovi, praktične implikacije i zaključak – s jasnom „niti vodiljom" od uvodnog samopredstavljanja („Ja sam Dinka… Majka četvero djece…") preko niza narativnih epizoda (odgojitelj Paul, avanturist Johannes, obitelj Hozé, belgijski par, Frida, Karmen) do generalizacija i završnog apela. Svaka epizoda služi kao ilustracija jedne dimenzije promjene – odricanja od materijalnog, pronalaženja ispušnog ventila, ustrajnosti usprkos bolesti, generacijske solidarnosti, autonomije u starosti, nadilaženja samoće – kulminirajući u sloganu koji ostavlja snažan dojam – *Uzmi život za rogove i dodaj gas!*

Stilski, govor obiluje slikovitim metaforama, idiomima i ponavljanjima koja pojačavaju patos i logos: metafora „prtljage" simbolizira terete koji onemogućuju napredak, dok „ispušni ventil" evocira nužnost rasterećenja od životnih obveza, tj. oslobađanja od stresa. Idiom „prezrela tikva" uvodi blagi humor pri kritici čovjekove rezignacije, anafore („Ja te ljude trebam. Ja trebam ljude oko sebe. Trebam njihove energije…") grade ritam i etos ovisnosti o zajednici, a kontrasti („Više ništa ne moraju, a sve mogu") i antiteze (stari roditelji nasuprot „kiselom potomstvu") ističu moralnu poruku o pravu na izbor i žrtvama za bližnje, u skladu s trostrukim ciljem motivacijskoga govora – informirati, zabaviti i pokrenuti.

Neverbalna komunikacija i etos

Neverbalna izvedba Dinke Juričić, prema kriterijima koje navode Šego[36] i Knežević,[37] snažno podupire etos autentične, empatične govornice, umjeren tempo, varijacije tona i naglasci na ključnim riječima usklađeni su s gestama (pokreti ruku za „prtljagu", „hvatanje za rogove", „ispušni ventil"), otvorenim dlanovima koji pojačavaju verbalni sadržaj. Mimika bogato odražava emocije – široki osmijesi u vedrim epizodama, podignute obrve u uzbuđenju, ozbiljan izraz u tragičnim segmentima (belgijski par, Frida) – uz snažan kontakt očima i suptilne pokrete po pozornici koji signaliziraju samopouzdanje.

Uspravan stav i usklađenost verbalnog s neverbalnim slojem – u duhu Winkler-Commichauove[38] paradigme *unutarnje jasnoće–vanjske jasnoće* –

[34] REEVE, 2010.
[35] ANDERSON, 2025.
[36] ŠEGO, 2005.
[37] KNEŽEVIĆ, 2003.
[38] WINKLER–COMMICHAU, 2008.

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potvrđuju vjerodostojnost, a stanke pojačavaju retorički učinak na razmišljanje i napetost.[39] Time se verbalne poruke o hrabrosti, slobodi i zajedništvu pojačavaju neverbalnim govorom, uvjeravajući publiku ne samo riječima nego i autentičnom izvedbom koja pojačava patos (uz potporu etosa i logosa).[40]

Analiza govora Oprah Winfrey

Tematske preokupacije i poruke

Govor Oprah Winfrey *Be happy no matter what life throws at you* (*Budi sretan bez obzira na to što ti život donese*) tematski se kristalizira oko sreće kao svjesnog izbora, radosti kao „protesta protiv razočaranja" i zahvalnosti kao prakse koja preobražava doživljaj stvarnosti, integrirajući PERMA-sastavnice (pozitivne emocije, smisao). Središnja tema usmjeruje se na životne izazove, gubitke i pogreške, naglašavajući da sreća ne negira bol, nego kultivira „unutarnje svjetlo", u skladu sa spoznajama pozitivne psihologije o povezanosti ljudske aktivnosti i dobrobiti.[41]

Oprah Winfrey poziva publiku na preoblikovanje ideje o sreći od udaljenog cilja (vezanog za status) u svakodnevni izbor „ovdje i sada" – radost, mir, zahvalnost usprkos okolnostima – gdje zahvalnost „reprogramira um" bilježenjem malih radosti (*topli čaj*, *dječji smijeh*), potvrđujući motrište pozitivne psihologije. Govor poručuje da je svaka osoba sama po sebi vrijedna, da duhovno raste suočavajući se s teškoćama, bolima i razočaranjima, ali i da je izbor stava prema teškoćama pitanje njezine unutarnje slobode.

Retorička sredstva i struktura govora

Govor O. Winfrey obuhvaća uvod (uspostavljanje bliskog odnosa s publikom), razradu (u kojoj dominira pripovijedanje o sreći i „lista zahvalnosti"), vrhunac (ostvaren anaforama – „Dopušteno vam je osjetiti radost. Dopušteno vam je izabrati mir. Dopušteno vam je biti sretnima – sada!"), a završetak govora snažno motivira slušatelje („Izaberite radost. Izaberite zahvalnost. Izaberite sada."). Retorička pitanja („Što ako sreća nije u završnici?"), kontrasti („bol i svjetlost u istom dahu") pojačavaju logos i patos.

Metafore („oluje" za životne turbulencije, „unutarnje svjetlo" za intuitivnu spoznaju) i personifikacije sreće konkretiziraju apstraktne pojmove i približavaju ih svakodnevnom iskustvu, naglašavajući važnost bavljenja vlastitom nutrinom i svojom duhovnom dimenzijom (za razliku od govora D. Juričić koji ne zanemaruje tu dimenziju, ali naglašava usmjerenost na zajedništvo i na „vanjsku" akciju).

[39] ŠEGO, 2005.
[40] KARLOVIĆ, 2020.
[41] RIJAVEC, 2019.

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Neverbalna komunikacija i etos globalne govornice O. Winfrey

Neverbalni govor Oprah Winfrey zrcali njezin intimni, „duhovni“ govorni ton. O. Winfrey govori umjerenim tempom, njezina se razgovorna intonacija katkad ubrzava, a katkad do izražaja dolaze stanke (kako bi izazvale napetost slušatelja), Oprahin glas varira (šaptom izražava ranjivost, imperativima apelira na djelovanje publike). Svojom osobnošću upućuje na snažan etos (aristotelovski – na razboritost, moralnost i dobronamjernost). Skladom verbalnoga i neverbalnoga govora pojačava svoju autentičnost i time još jače osvaja publiku, pomažući joj da se poistovjeti s njezinom porukom o sreći kao izboru, bez obzira na to što život čovjeku donosi.

Rasprava i sinteza

Usporedna analiza govora Dinke Juričić i Oprah Winfrey pokazuje da oba govora pripadaju žanru motivacijskoga, odnosno persuazivnoga (uvjeravajućeg) govora s izraženim apelativnim slojem te da u oba slučaja struktura slijedi žanrovski stabilan obrazac: uvod (kojim se uspostavlja odnos s publikom), središnji dio (utemeljen na pričama i metaforama) te zaključni apel koji sažima temeljnu poruku i poziva na promjenu stava, odnosno ponašanja. U govoru Dinke Juričić riječ je o aktivnom „hvatanju života za rogove“, uz pomoć konkretnih životnih odluka i promjena životnoga stila, dok je u govoru Oprah Winfrey središnja ideja unutarnji izbor sreće i zahvalnosti (usprkos životnim okolnostima).

Tematski se naglasci dvaju govora razilaze upravo na usmjerenosti djelovanja. Dinka Juričić snažnije ističe vidljivu, egzistencijalno utemeljenu promjenu (prodaja imovine, pojednostavljenje života, preseljenje, zajedničko stanovanje u starosti), pri čemu se motivacijska poruka usmjeruje u konkretne, svakodnevne odluke i prakse. Oprah Winfrey, naprotiv, u prvi plan stavlja unutarnju reinterpretaciju iskustava, emocionalnu svjesnost i sustavno njegovanje zahvalnosti kao psihološkog i duhovnog habitusa, pri čemu se sreća definira prvenstveno kao unutarnje stanje, a ne kao rezultat vanjskih okolnosti. Uporaba metafora jasno potvrđuju istaknutu razliku: u govoru Dinke Juričić dominiraju „tjelesne“ i „putničke“ metafore (prtljaga, bisage bicikla, ispušni ventil) koje simboliziraju rasterećenje, kretanje i konkretnu životnu promjenu, dok u govoru Oprah Winfrey prevladavaju metafore svjetla i oluje te personifikacije sreće i radosti, čime se naglasak premješta na unutarnja stanja i duhovnu dimenziju iskustva.

U oba govora patos zauzima središnje mjesto kao dominantno sredstvo uvjeravanja, ali se ostvaruje na različit način: D. Juričić patos gradi humorom, anegdotama, „susjedskim“ pričama i konkretnim slikama uronjenim u svakodnevicu. O. Winfrey pak patos oblikuje duhovno intoniranim metaforama, priznanjem svoje ranjivosti i pozivima na radost usprkos boli. Govornice različito ostvaruju etos: Juričić nastupa kao „pripovjedačica iz susjedstva“ – majka četvero djece i osoba koja „treba ljude“ – koja živi ono o čemu govori, dok O. Winfrey nastupa kao globalno prepoznatljiva figura koja vlastite padove i uspjehe interpretira kao paradigmatske primjere mogućega osobnog i duhovnog rasta. Logos je u oba govora prisutan u obliku generalizacija koje proizlaze iz konkretnih priča

DOI: 10.55072/DN.2026.1.99

(mogućnost novog početka u bilo kojoj dobi, sreća kao izbor, zahvalnost kao način preoblikovanja perspektive).

Pojmovi sreće, zahvalnosti i slobode u oba govora dobivaju različite retoričke oblike, ali se u teorijskom smislu oslanjaju na sličan pojmovni okvir pozitivne psihologije. U govoru Dinke Juričić sreća se poima kao rezultat aktivnoga, hrabrog odnosa prema životu, odbacivanja suvišne materijalne i emocionalne „prtljage" te traženja podrške zajednice, a zahvalnost se očituje u poštivanju međuljudskih odnosa, prijateljstva i mogućnosti zajedničkoga stanovanja u starosti. Sloboda se u govoru D. Juričić shvaća kao pravo na vlastiti izbor životnoga stila usprkos drugačijim očekivanjima potomstva ili društva. U govoru O. Winfrey sreća se definira kao stanje koje uključuje pozitivne emocije, životni smisao i unutarnji mir. Zahvalnost postaje središnja praksa („lista zahvalnosti") koja „reprogramira um", a sloboda se prvenstveno razumijeva kao unutarnja sloboda izbora stava prema nepromjenjivim okolnostima.

Neverbalna komunikacija u oba govora potvrđuje teorijske postavke[42] o važnosti usklađenosti verbalnog i neverbalnog sloja za ostvarivanje uvjerljivosti i retoričke učinkovitosti. U nastupu Dinke Juričić dominira dinamičan, tjelesno ekspresivan stil, s čestim gestama, živom mimikom i snažnim kontaktom očima, koji pridonose dojmu topline, spontanosti i neposrednosti. Oprah Winfrey pokazuje pak smireniji, „duhovni" izvedbeni stil, suptilnom glasovnom dinamikom i stankama koje pojačavaju napetost i potiču refleksiju. Iako je riječ o kulturološki različitim govorima čiji se izvedbeni stilovi razlikuju, u oba se slučaja potvrđuje misao da neverbalna sastavnica govora snažno podupire patos i potvrđuje etos govornica.

Zaključak

Retoričko-diskurzivna raščlamba pokazuje da su motivacijski govori Dinke Juričić i Oprah Winfrey snažna sredstva poticanja osobne promjene, ali da polaze s različitih tematskih i stilskih motrišta, u skladu s postavljenim istraživačkim hipotezama. U oba govora patos uistinu dominira nad logosom (H1), no nije riječ o „čistoj" emocionalnosti, jer su emocije strukturirane osobnim pričama koje istodobno jačaju etos govornica (autentičnost, ranjivost, iskustvo) i funkcioniraju kao implicitni logos, odnosno primjeri koji „dokazuju" da je promjena života moguća. Time se patos pokazuje nerazdvojivo povezanim s etosom i iskustvenim logosom.

H2, prema kojoj O. Winfrey češće rabi metafore i personifikacije vezane uz unutarnja stanja, dok Dinka Juričić preferira konkretne, „tjelesne" i „putničke" metafore, potvrđena je usporedbom metaforike u oba govora. Oprahina metaforika vrti se oko svjetla, oluja i kušnji te personificirane sreće, a govor Dinke Juričić počiva na „prtljazi", „ispušnom ventilu", „bisagama bicikla" i drugim opipljivim, svakodnevnim slikama. Navedeno zrcali dvije orijentacije – jednu usmjerenu na unutarnje stanje i duhovni okvir, drugu na praktične, vidljive korake u vanjskom životu.

[42] ŠEGO, 2005.

DOI: 10.55072/DN.2026.1.99

H3, koja pretpostavlja da je neverbalna komunikacija u oba govora prvenstveno usmjerena na pojačavanje patosa, ali da O. Winfrey gradi etos globalnog medijskog autoriteta, a D. Juričić etos autentične „pripovjedačice iz susjedstva“, također je potvrđena: u govoru D. Juričić uočljive su snažno izražene geste, bogata mimika, čvrst kontakt očima, a u oba govora vidljive su promjene u tempu i glasnoći koje prate emocionalne vrhunce.

H4 polazi od pretpostavke da tematska struktura oba govora slijedi žanrovski stabilan obrazac (uvod – priča– generalizacija – apel), uz kulturološki uvjetovane razlike, što analiza nedvojbeno potvrđuje: oba govora imaju jasan uvod (u kojemu se uspostavlja odnos s publikom), središnji dio (utemeljen na nizu priča i/ili slikovitih primjera) te završni dio s eksplicitnim apelom (Dinkin slogan „Zgrabi život za rogove i dodaj gas!“ i Oprahin niz imperativa „Odaberite radost…“), ali Oprah Winfrey snažnije naglašava individualni rad na sebi, osobnu odgovornost i duhovni mir, dok Dinka Juričić vrlo jasno ističe zajednicu, međuljudsku solidarnost i generacijske odnose.

Sveukupno gledano, rezultati rada potvrđuju da je motivacijski govor plodno polje za prepletanje retorike i pozitivne psihologije. Pojmovi sreće, zahvalnosti, slobode i autonomije prenose se pričama, metaforama, personifikacijama i snažnom neverbalnom izvedbom, pri čemu se teorijski modeli govorništva pokazuju primjenjivima i u analizi suvremenih, medijski posredovanih govora. Takva analiza otvara mogućnost promišljene primjene motivacijskih govora u odgojno-obrazovnom kontekstu (u nastavi retorike, hrvatskoga jezika, stranoga jezika, etike), ali i prostor za daljnja istraživanja učinaka različitih retoričkih i psiholoških strategija na subjektivnu dobrobit i motiviranje slušatelja na konkretnu akciju.

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Literatura

ANDERSON, Chris: *TED govori. Službeni TED priručnik za javne govore*. Stilus knjiga, Zagreb, 2025.
ARISTOTEL: *Retorika*. Naprijed, Zagreb, 1989. (preveo VIŠIĆ, Marko).
BOGADI, Marko: *Put do sreće popločan je dobrim kritikama? Pozitivna psihologija i njezin razvoj*, Psychē, 2025./1. 7–40.
CRICK, Nathan: *Rhetorical Public Speaking*. Routledge, Taylor and Francis Group, London–New York, 2016.
GOTTESMAN, Deb–MAURO, Buzz: *Umijeće javnog nastupa. Osvojite govornicu koristeći se glumačkim vještinama*. Naklada Jesenski i Turk, Zagreb, 2006.
JURIČIĆ, Dinka: *Zgrabi život za rogove i dodaj gas!*, TEDxKarlovac, 2025. https://www.youtube.com/watch?v=PuZcPphtDko
KARLOVIĆ, Martina: *Retorička analiza ukrajinskih i hrvatskih sportskih motivacijskih govora*, diplomski rad. Filozofski fakultet Sveučilišta u Zagrebu, Zagreb, 2020.
KIŠIČEK, Gabrijela–STANKOVIĆ, Davor: *Retorika i društvo*. Naklada Slap, Zagreb, 2014.
KNEŽEVIĆ, Ana Nuša: *A što s maslinom? Pravila ponašanja i govor tijela*. Mozaik knjiga, Zagreb, 2003.
LUKŠIĆ, Sandra: *Retorička analiza dvaju motivacijskih govora u Hrvatskoj*, Govor, 2023/1. 83–107.
REEVE, Johnmarshall: *Razumijevanje motivacije i emocija*. Naklada Slap, Jastrebarsko, 2010.
RIJAVEC, Majda: *Pozitivna psihologija 2*. IEP, Zagreb, 2019.
RIJAVEC, Majda: *Psihologija čije je vrijeme (ponovno) došlo*, Društvena istraživanja, 2006/3. 351–369.
RIJAVEC, Majda–MILJKOVIĆ, Dubravka–BRDAR, Ingrid: *Pozitivna psihologija: znanstveno istraživanje ljudskih snaga i sreće*. IEP, Zagreb, 2008.
ŠEGO, Jasna: *Kako postati uspješan govornik*. Profil, Zagreb, 2005.
ŠKARIĆ, Ivo: *Temeljci suvremenoga govorništva*. Školska knjiga, Zagreb, 2000.
ŠKARIĆ, Ivo: *U potrazi za izgubljenim govorom*. Školska knjiga, Zagreb, 1988.
ŠPANJOL MARKOVIĆ, Mirela: *Moć uvjeravanja. Priručnik za učenje retorike i javnog nastupa. Govorništvo za menadžere (i one koji to žele postati)*. Profil International, Zagreb, 2008.
WINFREY, Oprah: *Be happy no matter what life throws at you!*, motivacijski govor, YouTube, 2025. https://www.youtube.com/watch?v=qvvpPGDZqe8
WINKLER, Maud–COMMICHAU, Anka: *Komunikacijsko-psihološka retorika. Kako dobro – javno govoriti, izlagati, prezentirati*. Erudita, Zagreb, 2008.

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Absztrakt

OPRAH WINFREY ÉS DINKA JURIČIĆ MOTIVÁCIÓS BESZÉDEI: A BOLDOGSÁG, A HÁLA ÉS A SZABADSÁG TÉMÁINAK RETORIKAI-DISKURZÍV ELEMZÉSE

A tanulmány Oprah Winfrey *Légy boldog, bármit is hoz az élet!* című beszédét, valamint Dinka Juričić *Fogd meg az életet a szarvánál, és lépj határozottan!* című beszédét elemzi. Ezek motivációs beszédek, amelyek arra ösztönzik az embereket, hogy lépjenek ki a komfortzónájukból, és hozzanak változást az életükbe. A tanulmányban a szerzők kvalitatív tartalomelemzési módszert alkalmaztak a kiválasztott beszédek szerkezeti elemeinek, témáinak, üzeneteinek, valamint nyelvezete és stílusa vizsgálatára. Mindkét beszéd tartalmaz valós példákat, valamint optimista üzeneteket a személyes és szakmai fejlődésről. Hangvételük érzelmes és empatikus. A beszédek összehasonlítása azt mutatja, hogy D. Juričić a külső tevékenységre és az élet határozott irányítására összpontosít, míg O. Winfrey a lelki békét, az érzelmi tudatosságot és az önsegítést tűzi ki célul. A tanulmány arra a következtetésre jut, hogy a két megközelítés integrálása átfogóbb választ adhat a mindennapi élet kihívásaira, miközben hangsúlyozza a bátorság és a felelősség fontosságát, és elismeri az érzelmek és a külső tényezők összetettségét a személyes fejlődés folyamatában. A kutatási eredmények hozzájárulnak a motivációs beszédek mélyebb megértéséhez, és alapot nyújtanak a kommunikációs megközelítések személyes fejlődésre és egyéni jólétre gyakorolt hatásának további kutatásához.

Abstract

MOTIVATIONAL SPEECHES OF OPRAH WINFREY AND DINKA JURIČIĆ: A RHETORICAL-DISCURSIVE ANALYSIS OF THE THEMES OF HAPPINESS, GRATITUDE AND FREEDOM

This paper analyzes Oprah Winfrey's speech *Be happy no matter what life throws at you!* and Dinka Juričić's speech *Grab life by the horns and accelerate!* These are motivational speeches which encourage people to step out of their comfort zone and introduce change into their lives. In this paper, using the qualitative method of content analysis, the authors examined the compositional elements, themes, messages, as well as the language and style of the selected speeches. Both speeches contain real-life examples and optimistic messages for personal and professional growth. Their tone is emotional and empathetic. The comparison shows that D. Juričić focuses on external activity and decisive life management, whereas O. Winfrey strives for spiritual peace, emotional awareness and self-help. It is concluded that integrating both approaches can offer a more comprehensive response to everyday challenges, emphasizing the importance of courage and responsibility and the need to acknowledge the complexity of emotions and external factors in the process of personal development. The results of the research contribute to a deeper understanding of motivational speeches and provide a foundation for further research on the impact of communication approaches on personal development and individual well-being.

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Šego, Jasna

TRI UPEČATLJIVA HRVATSKA TED-GOVORA (IVAN ĐIKIĆ: „ŠTO MOŽEMO NAUČITI OD BAKTERIJA?“, ADRIJAN BARIĆ: „ŠTO NAM TEHNOLOGIJA SPREMA U BUDUĆNOSTI?“, DAVOR PAVUNA: „AH, LJUBAV!“)

TED u kontekstu razmišljanja o govoru i govorniku

TED je kratica od tri engleske riječi – *Technology, Entertainment* i *Design* (tehnologija, zabava i dizajn), koja označava neprofitnu organizaciju čiji je cilj širiti vrijedne ideje diljem svijeta. Sjedište je organizacije u New Yorku. Organizacija je započela radom 1984. u obliku konferencije koju je, kao jednokratan događaj, organizirao Richard Saul Wurman.

Šest godina kasnije, 1990., ta je konferencija ponovno organizirana, kao četverodnevna manifestacija, u Montereyu u Kaliforniji. Za 475 $ polaznici su mogli pratiti raznovrsne poruke iz područja tehnologije, zabave i dizajna. Izdavač časopisa o tehnologiji Chris Anderson premjestio je tu konferenciju 2001. u Long Beach u Kaliforniji. Do 2005. TED je bio četverodnevni događaj na kojemu je sudjelovalo 50 govornika koji su održavali osamnaestominutne prezentacije, a te je godine Chris Anderson toj manifestaciji pridružio sestrinsku konferenciju – TED Global, s ciljem komuniciranja s međunarodnom publikom. Godine 2009. počele su se dijeliti licencije trećim osobama koje su organizirale konferencije na razini svojih lokalnih zajednica (tzv. TEDx). Tijekom tri godine održano je više od 16 000 govora na TEDx manifestacijama diljem svijeta. U suvremeno se doba svakodnevno organizira 5 TEDx konferencija u više od 130 zemalja.[1]

Danas postoje i druge TED-konferencije: TED Woman, TED Global, TED Summit, TED Saloons, TED Institutes, TED Weekends itd. Na TED-konferencijama raspravlja se o znanstvenim, ekonomskim, kulturnim, umjetničkim i općim temama, a na njima sudjeluju ljudi koji žele dublje razumjeti svijet te svoja znanja, ideje i nadahnuća podijeliti s drugima. Gosti su na TED-konferencijama znanstvenici, istraživači, umjetnici, aktivisti, akademici, nastavnici itd. Tako su npr. na spomenutim događajima sudjelovali Steve Jobs, Jane Fonda, Jamie Oliver, All Gore, Serena Williams, Ken Robinson, papa Franjo, Bono Vox, Ben Affleck i brojni drugi.

Govoreći oduševljeno, strastveno i s puno entuzijazma o odabranim temama, poticajni i zanimljivi govornici na TED-manifestacijama pokazuju svoje autentično „ja“. O specifičnome ugođaju koji se stvara na tim događanjima C. Gallo piše: „Strastvena, snažna i nadahnjujuća komunikacija jedna je od sila koje nas pokreću i koje nas oblikuju. Nov pristup rješavanju dugogodišnjih problema, inspirirajuće priče, intrigirajući načini prenošenja informacija i pljesak poznati su kao TED-trenutci.“[2]

[1] Carmine GALLO: *Talk like TED*. St Martin's Press, New York, 2014. 3.
[2] Isto. 11.

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TED-govori mijenjaju načine na koje ljudi promatraju svijet. Oprah Winfrey jednom je rekla da je „TED tamo gdje briljantni ljudi gledaju druge ljude s kojima dijele ideje.“[3]

Prva TEDx konferencija u Republici Hrvatskoj održana je 2010. u Muzeju suvremene umjetnosti u Zagrebu. Za konferenciju se nisu odabirali samo govornici, nego i publika. Tko je želio sjediti u gledalištu i pratiti konferenciju, morao je elektroničkom poštom poslati pismo organizatorima, tj. kratku priču o sebi, kako bi organizatori procijenili je li osoba dovoljno zanimljiva da bude u publici te hoće li svojim pitanjima, komentarima, sudjelovanjem u raspravama i razgovorima u stankama konferencije pridonijeti poticajnu ozračju i razmjeni ideja. Na prvoj su zagrebačkoj TEDx konferenciji teme bile ljubav, prvi hrvatski električni automobil, planovi za putovanje u svemir itd.

U čemu je tajna uspjeha TED-govora? Čime TED-govornici privlače pozornost slušatelja? Čime potiču publiku na razmišljanje i djelovanje? Čime zaslužuju pljesak?

Komunikacijski stručnjak Carmine Gallo u svojoj knjizi „Talk like TED“ („Govorite kao TED“) otkriva 9 tajni TED-govornika:

1) osloboditi unutrašnjeg učitelja (Dobri govornici dotiču srce i um slušatelja. Svojom karizmom, pozitivnom energijom, strašću pokreću publiku. Imaju upečatljiv neverbalni govor – kontakt očima, osmijeh, samopouzdanje, primjerenu gestikulaciju. Govornik se treba pitati što veseli njegovo srce. Kad odgovori na to pitanje, njegova će priča zaživjeti te će se povezati s publikom dublje nego što je ikada pomislio da je to moguće.
2) ovladati vještinom pripovijedanja (Ljudi vole slušati priče. Govornici zanimljivi pričama (osobnim pričama, pričama o drugim ljudima, pričama o uspjesima ili neuspjesima određenih proizvoda ili robnih marki) dotiču srce i um publike, te ju potiču na djelovanje). Aristotel je isticao tri sastavnice govora: etos, patos i logos. Etos se odnosi na govornikovu osobnost, tj. na njegov kredibilitet; složit ćemo se naime s ljudima koje poštujemo zbog njihovih postignuća, iskustava i sl.). Patos je element kojim se djeluje na osjećaje publike: „Sjajni govornici uistinu su neovisni mislioci, pustolovi, buntovnici koji krše pravila, riskiraju. Oni pripovijedaju priče kako bi izrazili svoju strast prema temi o kojoj govore te da bi se povezali sa svojom publikom. Ideje su valuta za 21. st., a priče olakšavaju razmjenu valuta. Priče ilustriraju, osvjetljuju i nadahnjuju.“[4] Logos uvjerava logikom, podatcima, statistikom.
3) Komunicirati s publikom (govornik treba tako govoriti da ostvari bliskost s publikom, da publika ima osjećaj da razgovara s govornikom, da je govorniku stalo do nje; govornikova snaga dolazi iznutra; govornik treba uskladiti visinu, jačinu, stanku, ritam glasa s porukom; njegov verbalni i neverbalni govor moraju biti u skladu (u suprotnom mu publika neće vjerovati).
4) Poučiti publiku nečemu novom (govornik treba imati jasan cilj svojega govora; kada ima jasan cilj, lakše oblikuje tezu, tj. središnju misao govora;

[3] Isto. 5.
[4] Isto. 74.

DOI: 10.55072/DN.2026.1.113

kad je središnja misao razumljiva i jasna, lako se pamti; često je sam naslov središnja misao govora; kad naslov zaintrigira publiku, publika želi dublje uroniti u govor; Gallo spominje TED-govore koji su već samim svojim naslovom plijenili pozornost:
„Škole ubijaju kreativnost“ (Sir Ken Robinson)
„Iznenađujuća znanost o sreći“ (Dan Gilbert)
„Moć introverta“ (Susan Cain)
„Osam tajni uspjeha“ (Richard St. John)
„Kako živjeti prije smrti“ (Steve Jobs).

Publici treba otkriti nove informacije ili joj pak ponuditi nove načine rješavanja starih problema.[5]

5) Privući publiku nečim neočekivanim (iznenađenja privlače pozornost slušatelja).
6) Pokazati smisao za humor, otvorenost, srdačnost i ljubaznost (govornik se pritom može služiti anegdotama, citatima, analogijama, fotografijama, videozapisima i sl.). Humor poboljšava raspoloženje publike i čini ju prijemljivom za poruke).
7) Poštovati „pravilo 18 minuta“ (govornik ne smije govoriti dulje od 18 minuta (jer se slušatelji mogu toliko dugo usredotočiti na govor). Ne smije previše ići u detalje (jer to može razvodniti govor). Treba istaknuti najvažnije, tj. bit govora i biti jezgrovit. Kad oblikuje tezu, treba je potkrijepiti trima argumentima, a argumente osnažiti pričama, statističkim podacima, primjerima.
8) Služiti se elementima koji dotiču više od jednoga osjetila (vid, sluh, dodir, okus, miris); multimedijsko iskustvo potiče učenje.
9) Biti svoj (govornik treba biti jedinstven, originalan, kreativan; treba dati osoban pečat temi, govoriti iz srca, biti zanimljiv, dinamičan, otvoren, autentičan. Pokuša li govornik biti što nije, neće dobiti povjerenje publike).[6]

Čime, dakle, govornik osvaja publiku? Osvaja ju umijećem artikuliranja svojih ideja, strašću, načinom informiranja, tj. poučavanja, nadahnućem, motiviranjem, nadom, jedinstvenošću, originalnošću, kreativnošću i snažnom osobnošću.

Slično kao i Gallo, analizirajući govornikovu osobu, Gottsesmann i Mauro ističu da je govornikov cilj „inspirirati, prosvijetliti, iznenaditi, polaskati, zatraviti, razvedriti.“[7] Kvalitetan odnos s publikom preduvjet je njegova uspjeha. „Govornik osvaja publiku činjenicama, primjerima, pričama i slikama, brojčanim podacima, kao i djelovanjem na njihove emocije.“[8]

Spomenuli smo da je Aristotel istaknuo tri dimenzije govora: etos, patos i logos. Etos se odnosi na govornikov kredibilitet i vjerodostojnost (ljudi više vjeruju ljudima koje poštuju). Patosom se djeluje na emocije publike. „Patos

[5] Isto. 113.
[6] Isto. 240.
[7] Deb GOTTESMAN, Buzz MAURO: *Umijeće javnog nastupa. Osvojite govornicu koristeći se glumačkim vještinama*. Naklada Jesenski i Turk, Zagreb, 2006. 23.
[8] Isto. 25.

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označava slušateljstvo sa svim njegovim strastima i problemima."[9] Patos ne čine samo pitanja, potrage koje prerušavamo u takozvana rješenja. On je najčešće satkan od problema koji se kao takvi i percipiraju. Naime on se sastoji od svih onih pitanja koja nas muče. (...) Dobar ih govornik pokreće kao uvjerenja na koja se valja osloniti, iako zapravo odgovara na pitanja i preokupacije koje ta uvjerenja nadilaze."[10] Logos se odnosi na uvjeravanje argumentima. Temelji se na točnim, provjerenim činjenicama i njihovu logičnom povezivanju. Tu dimenziju govora čine definicije, statistički podaci, dokazi, svjedočanstva, općeljudske istine, citati, mišljenje stručnjaka i autoriteta.

Iz svega je navedenoga razvidno da su dimenzije govora i kvalitete govornika plijenile čovjekovu pozornost od Aristotela do suvremenog doba. Kada je riječ o TED govorima, komunikacijski ih je stručnjak Carmine Gallo pomno proučio te nam otkrio „moć" kvalitetnih TED govornika: karizmatičnost, strast i sklad verbalnog i neverbalnog, vještina pripovijedanja, kvalitetna komunikacija s publikom, razumljiva, jasna i intrigirajuća središnja misao, iznenađenje, smisao za humor, poštivanje „pravila 18 minuta", pobuđivanje više osjetila slušatelja, govornikova kreativnost, originalnost i autentičnost.

Jesu li TED govori motivacijski govori?

Što su motivacijski govori? Koje su značajke motivacijskih govora i motivacijskih govornika?

„Motivacijski govori i motivacijski govornici predmet su interesa gotovo svih autora koji se bave javnim govorom. I svi se slažu u jednom: ako se želi motivirati govorom, uvijek valja biti svjestan da je govornik ujedno i uzor. Ako se želi širiti entuzijazam, pozitivna energija, nada... tada i govornik mora pružiti primjer energije i angažiranosti koju želi postići kod svojih slušača."[11]

Što motivacijski govornik treba pružiti publici?

„Alan H. Monroe još je 1930-ih, u vrijeme kada se svijet također suočavao s gospodarskom krizom, govorio o važnostima motivacijskog govora. Dobar motivacijski govor mora privući pozornost publike, mora upozoriti na problem i ponuditi rješenje problema, a na kraju pozvati publiku da i sama sudjeluje u realizaciji ideje koja je ponuđena. Dakle, motivacijski govor je daleko od ispraznih riječi i floskula, on mora postaviti cilj i ujediniti publiku u spremnosti njegova dostizanja i, najvažnije od svega, dati nadu."[12] Motivacijski su govori usmjereni k budućnosti pa se u skladu s tim bira i njihov leksik: „U motivacijskim se govorima gleda u budućnost i biraju se pozitivne riječi."[13] Entuzijazam je važan element motivacijskoga govora koji ističe „želju za napretkom, spremnost na akciju, na

[9] Michel MEYER–Manuel Maria CARRILHO–Benoît TIMMERMANS: *Povijest retorike od Grkā do naših dana*. Disput, Zagreb, 2008. 233.
[10] Isto. 235.
[11] Gabrijela KIŠIČEK–Davor STANKOVIĆ: *Retorika i društvo*. Naklada „Slap", Jastrebarsko, 2014. 106–107.
[12] Isto. 107.
[13] Isto.

DOI: 10.55072/DN.2026.1.113

pokret. Upravo je to svrha motivacijskih govora: napredovati, djelovati, pokrenuti se.“[14]

Iz kratkoga opisa motivacijskih govora razvidno je da su TED govori motivacijski govori. Govornici na TED konferencijama plijene pozornost svojim entuzijazmom, otkrivanjem i rješavanjem problema, motiviranjem publike na razmišljanje i angažiranje u ostvarivanju ponuđenih rješenja te poticanjem nade u budućnost.

Humor i autentičnost kao čimbenici javnoga nastupa

„Humor je vrlo ozbiljna stvar, često se kaže. Iako zvuči paradoksalno, nije daleko od istine. Korištenje humora u javnome govoru mora biti dobro promišljeno, primjereno, prikladno i dobro izvedeno, ali ne smije biti naučeno, uvježbano, isforsirano, usiljeno, neprirodno.“[15] O učincima humora na govor Kišiček i Stanković pišu: „Elementi humora općenito pridonose boljem raspoloženju publike, lakšem i bržem prihvaćanju govornika, a time i preduvjetima da publika govorniku lakše i više vjeruje.“[16]

Humor na vlastiti račun stvara opušten ugođaj.

Čime se može postići humoristični učinak govora?

„Humor se može postići pripovijedanjem anegdote, retoričkim figurama (ironijom, sarkazmom, parafrazom, antimetabolom, oksimoronom, analogijom, kalamburom, novokovanicama itd.).“[17]

Dobar govornik govori autentično. Što znači govoriti autentično?

„Prava autentičnost je:

- Osjećaj sigurnosti koji je neovisan o drugima
- Osjećaj prihvaćanja svoje snage i svojih ograničenja
- Spoznaja da je put djelovanja ispravan, čak i ako nije lagan
- Topao osjećaj olakšanja – da je ono što ste upravo izrekli zaista istinito
- Osjećaj moći – da možete reći što god je potrebno.“[18]

U ovome smo se radu odlučili na analizu triju TED govora trojice hrvatskih znanstvenika i profesora: Ivana Đikića – „Što možemo naučiti od bakterija“, Adrijana Barića – „Što nam tehnologija sprema u budućnosti“ i Davorina Pavune. „Ah, ljubav“. Ivan Đikić istražuje životne procese u stanicama. Direktor je Instituta za biokemiju te direktor-osnivač Buchmannova instituta za molekularne znanosti života na Goetheovu sveučilištu u Frankfurtu. Osnivač je i voditelj Laboratorija za istraživanje tumora Sveučilišta u Splitu. Adrijan Barić profesor je na zagrebačkom Fakultetu elektrotehnike i računalstva. Bavi se mikroelektronikom, tj. projektiranjem čipova. Davor Pavuna svjetski je poznati fizičar i izumitelj. Od 1986. radi na Federalnom institutu za tehnologiju u Lausanni u Švicarskoj. Govori triju spomenutih znanstvenika plijene svojim temama,

[14] Isto. 108
[15] Isto. 128.
[16] Isto. 128.
[17] Isto. 130.
[18] Sarah LLOYD-HUGHES: *Govorništvo. Kako biti izvrstan u javnom govoru*. Veble commerce, Zagreb, 2013. 4.

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sadržajem, porukama, vizijom, entuzijazmom, oduševljenjem, strašću. Poučavaju, motiviraju, intrigiraju, zabavljaju. Svjedoče o originalnosti, kreativnosti, zanimljivosti i autentičnosti odabranih govornika.

TED-govor Ivana Đikića: „Što možemo naučiti od bakterija?“

U uvodu svojega govora I. Đikić najavljuje da će govoriti o „fascinantnom svijetu bakterija, njihovoj kreativnosti i njihovom suživotu s nama ljudima. Kako one najjednostavnije primitivne stanice na našem planetu mogu svojim sposobnostima zadiviti nas koji smo najnaprednija vrsta na zemlji.“[19]

U razradi objašnjava pojam bakterija (prokarioti, organizmi bez jezgre), navodi vrste bakterija (dobre, patogene), rasprostranjenost tih organizama (svuda oko nas i u nama), opisuje eksperiment koji dokazuje da svaki čovjek ima vlastiti bakterijski zapis, opisuje djelovanje loših bakterija (legionele i salmonele), ulogu antibiotika (uništiti loše bakterije), bakterije rezistentne na antibiotike i plan borbe protiv njih (tzv. pametnim lijekovima, komplementarnim antibioticima).

U zaključku ističe značajke bakterija (inovativnost, kreativnost, inteligenciju, prilagodbu, znanje), potrebu ugledanja čovjeka na bakterije i primjenu navedenih značajki na odgojno-obrazovni sustav. Optimistično poručuje da vjeruje u buduće generacije koje će čovječanstvu donijeti sigurnost te zahvaljuje publici na pozornosti. Đikić svoju temu obrađuje popularnoznanstvenim stilom, da bi bio razumljiv široj publici. Tezu bismo njegova govora mogli ovako sažeti: „Učeći od bakterija, čovjek uči o samome sebi.“

Đikić svojim govorom poručuje da će kreativan, inovativan, prilagodljiv i originalan odgojno-obrazovni sustav oblikovat takve mlade ljude koji će svojoj zemlji donijeti sigurnu budućnost. Đikić je u svojemu govoru zadržao imidž znanstvenika–istraživača koji izvrsno poznaje temu o kojoj govori i popularizira znanost govoreći jasno, jednostavno, razumljivo, odmjereno.

Đikić pokazuje smisao za humor: kad kaže da čovjek u svojim crijevima i na svojoj koži nosi ukupno 2 kg bakterija te da oni koje muči višak kilograma ta 2 kg mogu oduzeti od svoje tjelesne mase, ističući da to nisu oni nego bakterije.

U svojemu se govoru služi metaforama (kuga = „crna smrt“, naše doba = „zlatno doba borbe protiv bakterija“, umjetne bakterije = „ubojita oružja protiv tumora“, „gutači ugljičnog dioksida“, „jedači plastike“. Slikovito prikazuje razarajuće djelovanje loših bakterija (poniruć u prošlost i služeći se brojčanim podatcima; navodi naime podatak da je tijekom pošasti kuge u 14. st. (kad nije bilo lijekova protiv bakterija) od te bolesti unutar 4 godine umrlo preko 100 milijuna ljudi, tj. četvrtina tadašnjeg čovječanstva. Iznosi zatim podatak da su 40-ih godina 20. st. stvoreni antibiotici koji su uspješno ubijali patogene bakterije, sve dok se čovjek nije „malo razigrao“ i pretjeranom uporabom tih lijekova stvorio bakterije rezistentne na antibiotike (kritizirajući čovjekovu neodgovornu i nekontroliranu uporabu antibiotika).

[19] Ivan ĐIKIĆ: *Što možemo naučiti od bakterija?* http://www.youtube.com/@tedx [01.10.2021]

DOI: 10.55072/DN.2026.1.113

Podatak koji je zasigurno nov za širu publiku odnosi se na globalni plan borbe protiv rezistentnih bakterija koji su stvorili Svjetska zdravstvena organizacija i Ujedinjeni narodi. Tvrdnjom da je on sam „60 % bakterija, a 40 % čovjek“, Đikić postiže „učinak iznenađenja“ te zbog humorističnoga efekta stječe dodatne simpatije publike. Kad govori o osobinama bakterija, služi se epitetima „inovativne“, „kreativne“, „pametne“, „prilagodljive“. Kad govori o životnim tajnama koje bakterije (još uvijek!) skrivaju, koristi se argumentom autoriteta: „I zato je ova vizionarska izjava Monota i Jacoba prije pedesetak godina koji su rekli da je logika života u prirodi – da sve što vrijedi za bakteriju, mora vrijediti i za slona. Drugim riječima, oni su rekli da u evolucijskom stablu od najjednostavnijih stanica pa do sisavaca i do ljudi – postoje zakonitosti koje su zajedničke. I te zakonitosti nam kazuju što bakterije skrivaju od nas i kako mi znanstvenici možemo svakodnevno učiti.“[20]

Đikić svojim govorom poručuje da vjeruje u mlade ljude koji će se svojim bogatim znanjem (stečenim u odgojno-obrazovnom sustavu koji njeguje i potiče učenikov talente, samopouzdanje, inovativnost, kreativnost) odgovorno koristiti (uz pomoć modernih tehnologija), radeći za napredak čovječanstva, tj. stvarajući sigurnu budućnost.

Đikićev je neverbalni govor u skladu s verbalnim. Šake pomiče u ritmu govora, a dlanovi su mu uglavnom otvoreni čime potvrđuje svoju iskrenost. Kad npr. spominje staničnu membranu lagano po zraku crta krug (da bi nam približio sliku te membrane. Kad spominje bakterije u sebi samome, dlanove usmjeruje prema sebi. Kad spominje crijevnu floru, pokazuje na svoj želudac. Kada opisuje djelovanje legionele, prstima oponaša kretanje tih bakterija – kad kaže da su te bakterije ušle u pluća, pokazuje taj organ, kad kaže da su te bakterije ubacile svoje iglice u pluća, prstima pokušava dočarati njihovo kretanje. Kad govori o evolucijskome stablu od najjednostavnijih do najsloženijih organizama, pokazuje rukom, tj. pomiče ruku odozdo prema gore (želeći dočarati taj raspon). Govorne vrednote Đikićeva govora nadopunjuju njegov verbalni izraz. Govori umjerenim tempom. Ima ugodnu boju glasa. Primjereno se koristi stankama. Važnije informacije naglašava i izgovara sporije.

TED-govor Adrijana Barića: „Što nam tehnologija sprema u budućnosti?“

Adrijan Barić u uvodu svojega govora predstavlja područje djelatnosti kojom se bavi, preplećući 1. osobu jednine i 1. osobu množine, plijeneći pozornost paradoksom: „Ja se bavim elektronikom. Mikroelektronikom. Čipovima. Mi radimo u Hrvatskoj ono što se u Hrvatskoj ne može raditi.“[21] Najavljuje potom temu svojega govora: „Kakva će biti budućnost 2050. godine“. Paradoks „Kako predvidjeti ono što se ne može predvidjeti?“ želi objasniti uz pomoć tri koraka: prvi korak čine argumenti koji idu u prilog tvrdnji da se budućnost ne može predvidjeti (život je

[20] Isto.
[21] Adrijan BARIĆ: *Što nam tehnologija sprema u budućnosti?* http://www.youtube.com/@tedx [01.10.2021]

DOI: 10.55072/DN.2026.1.113

prepun linearnih, ali i nelinearnih procesa), drugi korak čine argumenti koji idu u prilog tvrdnji da se budućnost može predvidjeti (pogledom u prošlost ne možemo predvidjeti detalje, ali možemo predvidjeti trendove razvoja), treći korak su odgovori na pitanja – „Kakva će biti naša budućnost 2050. godine?“ i „Utječe li tehnologija na našu budućnost?“ Odgovore na spomenuta pitanja mogli bismo ovako sažeti:

- Budućnost će biti obećavajuća.
- Čovjek oblikuje budućnost, a ne tehnologija.
- Tehnologija omogućuje čovjeku da ostvari svoju budućnost.
- Čovjekova je dužnost boriti se za pravdu i istinu, koristeći se vrhunskom tehnologijom.

U zaključku svojega govora Barić izriče riječi pune optimizma, poleta, zanosa, entuzijazma, nade i vjere u budućnost. Poručuje da je uvjeren da će mlade generacije ovaj svijet učiniti savršenim mjestom za život, „sebi na slavu, a čitavom svijetu za dobrobit.“[22]

Govornik se u svojemu nastupu služi paradoksima (pored već spomenutog, tu su i sljedeći: „Kako predvidjeti ono što se predvidjeti ne može?“, „To je nemogući događaj, a ipak se desio.“ (misleći pritom na pad Berlinskoga zida), „Mi se borimo za istinu zbog Einsteinove teorije relativnosti.“, „Upravo zato što je sve relativno, mi se trebamo boriti za istinu.“[23]

U govoru se koristi personifikacijom („... praktički neprimjetno, gotovo da je zid sam od sebe pao.“), retoričkim pitanjem („I kakva je naša šansa da predvidimo budućnost 2050.? – Gotovo nikakva.), gradacijom (kada prikazuje čovjekov tehnološki napredak; „Ljudi su izmislili telefone, pa zatim radio, pa televizor... pa onda veliko računalo, pa malo računalo, osobno računalo, pa mobitel pa pametni telefon... stotinu drugih stvari koje su sada bazirane na čipovima“).

Služi se metaforom (Internet je „okosnica civilizacije“), aforizmima („Kada nekome činim nešto loše, onda ja to činim jednako tako i sebi, ali i cijelome svijetu. (...) kada ja činim nešto dobro, onda ja to činim cijelome svijetu.“, personifikacijom („Tehnologija ne oblikuje našu budućnost. Ona nam samo omogućava da je ostvarimo“).

Adrijan Barić poručuje (prvenstveno) mladima: „Bez obzira što će povremeno biti teško, ja vjerujem u vas, duboko u srcu vjerujem da ćete biti u stanju ovaj svijet učiniti savršenim mjestom za život. Vama na slavu, a cijelom svijetu za dobrobit.“[24]

I Barić pokazuje smisao za humor: „(...) političari ne oblikuju našu budućnost. Premda oni imaju taj osjećaj da su oni presudni. Ne znam zašto.“ I Barić, kao i Đikić, govor završava optimistično, riječima punim zanosa, optimizma i vjeru u mladu generaciju.

Otvoreni dlanovi na samome početku govora znak su Barićeve iskrenosti i otvorenosti. Veoma je dobro upućen u pravila TED govora. Nastup mu je opušten, koristi se elementima humora. Me kreće se po pozornici, ali snažno

[22] Isto.
[23] Isto.
[24] Isto.

DOI: 10.55072/DN.2026.1.113

gestikulira rukama. Kad npr. kaže da se nešto može napraviti „ovako“ i „onako“, pokazuje gestama lijevo pa desno. Kad odgovara na pitanje „Utječe li tehnologija na budućnost?“, ističe: „Moj odgovor je sljedeći…“, pokazujući prstima na sebe Glas mu je ugodan, govorni tempo umjeren, ali su evidentna odstupanja od standardnojezične naglasne norme (predvȉdjeti umjesto prèdvidjeti, procȅsi umjesto pròcesi, naprȁviti umjesto nàpraviti, izmȉslili umjesto ìzmislili, detâlj umjesto dètālj, telefôn umjesto telèfōn itd.).

TED-govor Davora Pavune: „Ah, ljubav!“

U uvodu svojega motivacijskog govora „Ah, ljubav!“ Pavuna se obraća publici argumentom ad hominem („Šta reć genijalcima u rano jutro“) i humorom („Ovo je neki poljoprivredni TED, ne?“), retoričkom skromnošću („ja sam totalno neadekvatan“), ističući kako će publici „reći istinu“. Spomenutim sredstvima stječe naklonost publike. U središnjem dijelu govora iznosi informacije o sebi. Nekoliko puta kazuje da je fizičar. Govori o svojemu životnome putu i karijeri (od rodnoga Zagreba do Kine, Australije, Amerike itd.), o svojim talentima i interesima (matematika, fizika, šah itd.), svoju fasciniranost životom izriče metaforom (život – „totalno čudo“, priroda = „poezija znanosti“, znanost = „poezija prirode“), o osobitom oduševljenju atomima (koje naziva hipokoristikom „atomčeki“), ističe prirodu atoma („Atomi su totalno univerzalni.“) i njihov kohezijski karakter (originalni izraz „Atomski ste me poljubili!“), ali i o svojoj spoznaji da čovjek nije sazdan samo od atoma, nego i od osjećaja čiji se karakter ne može predvidjeti („nemreš ti to programirat“), o svojoj nespretnosti u komunikaciji s djevojkama („Pitam ja tatu – tata, kak' onda, kak' se to ženska nađe, kak' se to oženiš?“), o disharmoniji razuma i osjećaja (paradoks: „Posto sam fizičar! Prilično dobar, dapače! Proučio Newtona, Einsteina, sve živo… I nađem se totalno neadekvatan kao čovjek.“). Spoznaje i drugu stranu svoje osobnosti (izričući je metaforom „taj intuitivac“, epitetima „iskreni, krhki čovjek“), ironično se odnosi prema sebi samome („Pametan sam ja!“). Ističe činjenicu da živimo u osobito opasnim vremenima („Mi imamo katastrofu od civilizacije… totalna katastrofa od civilizacije, planetarno…“). Upozorava na čovjekovo neodgovorno ponašanje prema prirodi i na sebičnost („Zagađujemo. Previše vode koristimo! Pravimo profit! Koncentrirani egocentrizam – ključ problema ove civilizacije!“). Kritizira mentalitet suvremenog čovjeka usmjerenog na zgrtanje novca („A mi humanoidi – ego, business, right? I'm going to make some money, right? At the end of the day, how much did I earn? Right?“). Ističe čovjekovu nezaintere-siranost za bližnje („Nikoga ne zanima šta mu je brat i sestra preko…“). Naglašava važnost čovjekove skrbi za opća prirodna dobra („Amazona je svima našima važna. Bez Amazone neću preživjet.“). Odlučan je u izboru načina života i ostvarivanja svoje životne misije („Živim samo radi toga da spasim planet.“), služi se retoričkim pitanjima u odluci da će braniti svoju domovinu, tj. cijeli svijet („Zar ću dozvoliti da mi ovo unište? Zar ću dozvolit da mi ovu domovinu unište?“). Ističe da se bori za „zeleni planet“. Sebe drži „mrvicom“, „lokalnom prašinom“ (metafore). Zna što hoće („zeleni planet“, „zelenu Hrvatsku“) i što mu ne treba („Ja ne trebam ferari. Ja ne trebam 500 vila…“). Služi se razgovornim stilom, žargonizmima („Nisam ja

DOI: 10.55072/DN.2026.1.113

neka hipi zelenjava…“). Svoj životni stil objašnjava rabeći i hiperbole („… živim jednako dobro ili bolje nego Bill Gates“) i aforizme („… jer život je ljubav u vječnosti“). Drži da bez ljubavi ništa nije vrijedno („Čovjek nisu atomi. Čovjek čak nije lijeva ili desna polovina mozga i varijacije. To su kretenarije.“ Ističe da želi biti iskren i vjerodostojan pa ponavlja da je bez ljubavi sve zapravo ništa: „Nek' iscuri istina jednog čovjeka koji ne vara. Nisam političar. Nisam milijarder. (…) Imam jedan poklon dati svima vama. Jedan jedini. Najljepši i najuniverzalniji. (…) To je poklon ljubavi i to je poklon istine… jer vam svjedoči živ čovjek u totalnoj esenciji. Bez ljubavi nema ništa.“). Govor završava aforizmom (i dodatnim objašnjenjem): „Život je vječna ljubav i to je jedino što je vrijedno. To ne ukida nijednu drugu komponentu. To ne ukida nijedan drugi dio. I zato kažem – ah, ljubav!“

Poruke Pavunina govora ovako bismo mogli sažeti i parafrazirati:

- Znanje bez ljubavi beskorisno je.
- Život bez zajedništva besmislen je.
- Život je čudo vrijedno divljenja.
- Čovjek je prašina.
- Ljudi se moraju boriti za zeleni planet.
- Nisu vrijedne stvari koje posjedujemo (jer je materijalno prolazno) nego ljubav (jer je ona vječna).
- Bez ljubavi je sve bezvrijedno.

Pavuna ističe da se nije posebno pripremao za svoj govor, nego je od Boga tražio nadahnuće – da iz njega „iscuri istina“ (a to je – da je ljubav najveća životna vrijednost). Njegov je govor prožet asocijacijama, digresijama, komentarima, retoričkim pitanjima, modalnim izrazima. Pavuna je dinamičan, zanimljiv, zabavan, autentičan. Ne drži se strogih kompozicijskih pravila u oblikovanju govora. Govori razgovornim stilom. Koristi se žargonizmima, dijalektizmima, odnosno suvremenom urbanom (zagrebačkom!) kajkavštinom.

O povezanosti emocija i govora A. i B. Pease pišu: „Govor tijela izravni je odraz emotivnog stanja osobe. Svaka gesta ili kretnja može biti vrijedan pokazatelj osjećaja koji čovjek u tom trenutku doživljava.“[25] Neverbalni Pavunin govor, kao i verbalni, plijeni snažnu pozornost. Kad govori o svojim „nevoljama“ s djevojkama i kad ih opisuje, spominje „malo dulju kosicu“ (i dočarava je pokretima ruku), da im „tu nešto izraste“ (pokazuje na grudi). Kad oponaša M. Jordana kako baca loptu prema košu, imitira njegove pokrete, kad spominje pisanje svojega udžbenika, rukom dočarava tu radnju, kad tvrdi da je srce „fundament života“, pokazuje taj organ. Temperamentan je, hoda po pozornici, kad publici kaže da je pred njom „totalno na koljenima“, uistinu kleči. Kad kaže da se za govor nije „ni ovoliko pripremao“ rukom dočarava „mrvicu“. Pavuna je teatralan, ali nije iritantan nego simpatičan i autentičan.

[25] Allan i Barbara PEASE: *Velika škola govora tijela. Neverbalno izražavanje, kulturološki uzorci sporazumijevanja i čitanje između redaka*. Mozaik knjiga, Zagreb, 2008. 24.

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Zaključak – po čemu su odabrani TED govori upečatljivi?

Sva su tri analizirana TED-govora originalna, jedinstvena, nadahnuta, autentična i nadahnjujuća. Đikić odgovara na pitanje što možemo naučiti od bakterija (inovativnost, kreativnost, prilagodbu), Barić odgovara na pitanje može li se budućnost predvidjeti (ne može!), Pavuna odgovara na pitanje o pokretačkoj snazi života (ljubavi!). Sva su tri govora motivacijska – dinamična, puna zanosa, oduševljenja i strasti. Sva su trojica uglednih znanstvenika i profesora TED publici (ne samo uživo nego i onima koji ih gledaju na YouTube kanalu) približila tri teme svojim zanimljivim pristupom, jedinstvenim izlaganjima, karizmatičnošću, dinamičnošću, upečatljivim porukama. Sva su trojica ostvarila sklad svojega verbalnog i neverbalnog govora (a pokretima tijela otkrila emocije i temperament). I. Đikić, A. Barić i D. Pavuna pokazali su se vještim komunikatorima, popularizatorima znanosti i prenositeljima svojega bogatoga životnog iskustva. Publici su prenijeli spoznaje, viziju budućnosti, podijelili s njom svoj entuzijazam, u govor unijeli elemente humora, zabavili publiku te dokazali da su njihove zamisli uistinu ideje vrijedne širenja.

Literatura

Hans Jürgen APEL: *Predavanje. Uvod u akademski oblik poučavanja*. Erudita, Zagreb, 2003.

Nathan CRICK: *Rhetorical Public Speaking*. Routlege, Taylor and Francis Group, London, New York, 2014.

Carmine GALLO: *Talk like TED*. St Martin's Press, New York, 2014.

Deb GOTTESMAN–Buzz MAURO: *Umijeće javnog nastupa. Osvojite govornicu koristeći se glumačkim vještinama*, Naklada Jesenski i Turk, Zagreb, 2006.

Gabrijela KIŠIČEK–Davor STANKOVIĆ: *Retorika i društvo*. Naklada „Slap“, Jastrebarsko, 2014.

Sarah LLOYD-HUGHES: *Govorništvo. Kako biti izvrstan u javnom govoru*, Veble commerce, Zagreb, 2013.

Katharina LOCHNER: *TED's Secret to Great Public Speaking*. www.insights.humancapital.aon.com/talent-assessment- blog/ted s secret to great public speaking

Michel MEYER, Manuel Maria CARRILHO, Benoît TIMMERMANS: *Povijest retorike od Grkā do naših dana*. Disput, Zagreb, 2008.

Joe NAVARRO: *Što nam tijelo govori?* Mozaik knjiga, Zagreb, 2010.

Taylor PAYNE: *Writing a Ted Talk in 7 Easy Steps*, speakerflow.com

Allan i Barbara PEASE: *Velika škola govora tijela. Neverbalno izražavanje, kulturološki uzorci sporazumijevanja i čitanje između redaka*, Mozaik knjiga, Zagreb, 2008.

TED X Speaker Guide: storage.ted.com/tedx/manuals/tedx_speaker_guide.pdf

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Govori:
Adrijan BARIĆ: *Što nam tehnologija sprema u budućnosti?*, http://www.youtube.com/@tedx
Ivan ĐIKIĆ: *Što možemo naučiti od bakterija?*, http://www.youtube.com/@tedx
Davor PAVUNA: *Ah, ljubav!*, http://www.youtube.com/@tedx

Abstract

THREE IMPRESSIVE CROATIAN TED TALKS (IVAN ĐIKIĆ: WHAT CAN WE LEARN FROM BACTERIA?, ADRIJAN BARIĆ: WHAT DOES TECHNOLOGY PREPARE FOR US IN FUTURE?, DAVOR PAVUNA: AH, LOVE!)

TED (Technology, Entertainment, Design) is non-profit organization based in New York whose goal is to change the world by spreading valuable ideas. It is open to all world cultures, disciplines and topics ted x conferences in Croatia have been organized since 2010. and speakers from various professions and profiles participate in them. The article analyzes three speeches given at the Croatian TED X conferences. What makes these speeches interesting, impressive and authentic? The article analyzes the topics, composition, messages, linguistic and stylistic features of the speech as well as the features of the non-verbal speech of the mentioned scientists.

Key words: 3 impressive Croatian TED talks, topics, messages, language, style, non-verbal speech

Absztrakt

HÁROM LENYŰGÖZŐ HORVÁT TED-ELŐADÁS (IVAN ĐIKIĆ: *MIT TANULHATUNK A BAKTÉRIUMOKTÓL?*, ADRIJAN BARIĆ: *MIT TARTOGAT SZÁMUNKRA A JÖVŐBEN A TECHNOLÓGIA*?, DAVOR PAVUNA: Ó, A SZERELEM!)

A TED (Technology, Entertainment, Design) egy New York-i székhelyű nonprofit szervezet, amelynek célja, hogy érdemes ötletek terjesztésével megváltoztassa a világot. A szervezet nyitott a világ minden kultúrája, tudományága és témája felé. Horvátországban 2010 óta szerveznek TEDx konferenciákat. Évek óta tartanak ilyen rendezvényeket, amelyekre különböző szakmákból és háttérrel rendelkező előadók érkeznek.

A cikk három, horvátországi TEDx konferenciákon elhangzott előadást elemez: I. Đikić „Mit tanulhatunk a baktériumoktól” (2017), A. Barić „Mit tartogat számunkra a technológia a jövőben” (2017-ből), valamint D. Pavune „Ah, Love” (2016-ból) című előadását. Mi teszi ezeket az előadásokat érdekes, lenyűgöző és hiteles előadásokká? A cikk elemzi a fent említett tudósok témáit, üzeneteit, nyelvi és stilisztikai jellemzőit, valamint nonverbális kommunikációját.

Kukcsszavak: 3 figyelemre méltó horvát TED-előadás, témák, üzenetek, retorikai eszközök, nonverbális kommunikáció

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Pogány Csilla

SCIENCE AND MORALITY IN THE SHADOW OF THE ATOMIC BOMB IN CORMAC MCCARTHY'S TWO NOVELS: *STELLA MARIS* AND *THE PASSENGER*

I.

The question whether scientific research, which is based on ”objective” and scientifically proven data, and morality, which is a cultural construct should be considered together or separately has been a long-disputed topic.It seems that ”modern intellectual history moves on a progressive trajectory from the premodern superstition of the Christian tradition to the empirically oriented Age of the Enlightenment”.[1] When tackling this problem Steven Frye refers back to John William Draper's History of the Conflict between Religion and Science (1847), Andrew Dickinson White's A History of the Warfare of Science with Theology in Christendom (1896) and James Y. Simpson's Landmarks in the Struggle between Science and Religion (1925.). He points at the fact that we have gradually moved away form religion towards „secular science and philosophical materialism”[2] and this phenomenon of „strict scientific positivism”[3] is something that McCarthy very often rejects in his novels. The author also cites several 20th century works on the above mentioned topic such as James Turner's Without God, Without Creed: The origins of Unbelief in America (1985) and the collection of essays edited by Ronald L. Numbers and David C. Lindberg, God and Nature: Historical Essays on the Encounter between Christianity and Science (1986) and draws the attention to the fact that this historical process also marks „a shift of intellectual sensibility that came to dominate university culture”[4] and that the nature of the conflict between the two is not only intellectual, but also political.[5]

Exact sciences are able to investigate the phenomena that they focus on solely by relying on hypotheses which we consider „objective”, but the process of the investigation cannot be separated from the persona of the scientist who is involved in it, therefore it can only be subjective. Hypotheses presuppose the use of phrases like „let's suppose” and „let's imagine” which according to Éva Cs. Gyímesi are linguistic means that help creating „fictional worlds”.[6] Werner Heisenberg himself, the Nobel Prize winning physicist in his Physics and Philosophy: the Revolution in Modern Science observes: „Since the measuring device has been constructed by the observer... we have to remember that what we observe is not

[1] FRYE, Steven: *„An Unknown Tongue:God, Complexity and the Limits of Secular Epistemology in Cormac McCarthy's The Passenger and Stella Maris* MFS Modern fiction Studies, 2024/4. 702.
[2] FRYE, 2024. 703.
[3] Uo.
[4] Uo.
[5] FRYE, 2024. 704.
[6] CS.GYÍMESI Éva: *Teremtett világ. Rendhagyó bevezetés az irodalomba*. Pátria Könyvek, H. n. 1992. 37.

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nature itself, but nature exposed to our method of questioning. Our scientific work in physics consists in asking questions about nature in the language that we possess and trying to get an answer from experiment by the means that are at our disposal."[7] In other words, there are no purely objective means by which the surrounding world, nature and the universe can be dealt with. Language and our minds will always distort the things that we perceive.

In 1981 Cormac McCarthy met and became friends with the Nobel Laureate physicist Murray Gell-Mann who founded the Santa Fe Insitute (SFI), three years later where cross-disciplinary issues belonging to the topic known as complexity science have been investigated ever since. The latter encompasses social and physical sciences and other disciplines as well. McCarthy himself became a fellow and a trustee at the SFI and was interested in math and consciusness until his death in 2023.[8]

His main characters, Bobby and Alicia Western in The Passenger and Stella Maris are seeking a higher entity based on their well-founded knowledge in physics and mathematics, in the ideas of so-called emergent properties and shared patterns, issues that are central to complexity science. In his article Frye cites Dowd Ciarán who explains this in the following way: „the idea that out of the totality of individually simple interactions between constituents of a complex system there emerge higher-order phenomena or entities which might not necessarily be reducible to, or at least be predicted by, an understanding of the individual components and the rules governing their physical interaction. In short: the whole is greater (and perhaps other) than the parts."[9]

II.

The Passenger and Stella Maris are companion novels that complement each other in a unique, special and extraordinary way. Both can be considered literary genre fiction[10] owing to the fact that the first, the brother's book, can be read as a thriller (the investigation of a plane crash by Bobby Western and his team of deep sea divers) and the second, the sister's book, as the medical records of the patient Alicia Western. The characters' lives are defined by the cumbersome legacy of their parents who took part in the Manhattan Project, which was a research and development project during World War II designed to produce the first nuclear bomb. Their father was a physicist who worked in Oppenheimer's team, whereas their mother worked at the Y-12 electromagnetic separation plant. The siblings are both exceptional characters who share this gruesome parental legacy, are each other's intellectual partners and are incestuously drawn towards each other, yet they never become physically intimate.

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[7] HEISENBERG, Werner: *Physics and Philosophy: the Revolution in Modern Science*. Allan&Unwin Publ., 1958. 78.
[8] FRYE, 2024. 705.
[9] DOWD, Ciarán: *„The Santa Fe Institute." CormacMcCarthy in Context*, ed. by Steven Frye, Cambridge UP, 2020. 34.
[10] DORSON, James: *Cormac McCarthy and the Genre Turn In Contemporary Literary Fiction*. European Journal of American Studies 2017/3. 1–5.

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Stella Maris is the counterpoint of the The Passenger in the sense that it is a novel of ideas, connected especially to mathematics, philosophy and music which are all deeply rooted in timelessness in Alicia's mind, while the companion novel can be conceived as one related to matter (physics) and time. For the sister light bears a special importance being something that should be protected and looked for, whereas darkness is part of the brother's everyday work life (he goes underwater be it ocean or river).

The siblings spent their childhood in Los Alamos, New Mexico where the nuclear experiments were carried out and grew up in the company of scientists. Their curiousity and interest for science are common traits, the same as the state of „cosmic" loneliness that they experience. Their sequestration is a sign of their exceptional intellect which seeks answers and construes without intermission the seen and unseen alike, a corollary deriving from their inescapable and cumbersome parental legacy and the feeling of being quasi orphans. The deployment of the atomic bomb in Hiroshima shades light on what scientific achievements may bring along. „The bomb" is a recurring ghostly topic which is in the focus of many conversations they have with other people.

Bobby's walk of life is marked by unusual ventures. As a high-school student he takes part in a biology project and draws life-size pictures about the animals of a local pond, later he bacomes a PhD student of physics at Caltech and gives up his studies, then goes to fight in Vietnam, becomes a race car driver and finally a salvage diver.

When observing the animals living in and around the local pond, he comes across the home of a muskrat (ondatra zibethicus) and makes a whole on the top of it in order to be able to peep into it. When he does so, he can smell the musk scent, which immediately reminds him of his mother's perfume and a childhood scene. After he perforates the home of the animals, the muskrats never build another home on the lake. As if they knew that someone would like to find out the secret of their lives and of their cosy home. After he has completed his biology project, he loses his interest in the subject. When he pays a visit to his grandmother, we find out that earlier she has envisioned him as a doctor.

He takes up mathematics at first, then he turns to quantum physics, but he does not finish his studies. He thinks, he is not good enough, but as we read along, we realize that he sets the bar too high, the benchmark being her sister's achievements who is a mathematical prodigy. Another very plausible reason for his withdrawing can be his father's assisstance in the deployment of the atomic bomb.

The Vietnam war and later the jobs he undertakes presuppose an existence on the edge, at times even near-death experiences, „experiments" carried out with his own body by a person who has studied both „living matter" (biology) and „lifeless matter" (physics).

Bobby Western observes the world, everyday life, his own and other people's existence with the analytic and distant mind of a physicist. He believes in a universe governed by the laws of physics. Though he is a skeptic, he still looks for evidence that would prove the existence of a higher entity.

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Alicia on the other hand tries to understand the universe through mathematics and is convinced that mathematics has to do with faith. She always has the impression that the solutions of mathematical problems have always been there, she just suddenly becomes aware of them if she spends enough time studying them. She is a schizophrenic patient who has synaesthesia, the ability to perceive her environment through multiple unrelated senses. Her amazing intellect is able to combine mathemathical, physical and philosophical thinking and can find interlockings between music and mathematics. She knows that perfection is present in our world and one example of perfection for her is the violin:"What's even more remarkable is that there is no prototype to the violin. It simply appears out of nowhere in all its perfection. And what do you make of that? (...) But unless you are willing to concede that God invented the violin, there is a figure who'll never be known. A small man who went with his son into the stunded forest (...) and saw and split the maple trees..."[11] When she takes home the freshly purchased Amati violin, at its sight she bursts out in tears and exclaims citing Shakespeare in the second scene, second act of Hamlet: „What a piece of work is a man!"[12] Leonardo's and Newton's intellect and work are further examples of flawlessness for her.

From the conversations she has with her psychiatrist, dr. Cohen, we find out that she, similarly to her brother, has chosen to give up mathematics as she realized that there are things that cannot be comprehended solely with its help. She believes that mathematics at its highest level has to do with faith, she is a „Platonist mathematician from the school of Kurt Gödel and Alexandre Grothendieck, having a gnostic sensibility".[13]

We learn from the medical records that she is a person who has widespread knowledge in physics, philosophy, literature and music and is an ingenious violonist as well. Her mind is constantly seeking for answers. She herself compares her own mind to a dolphin's mind about which she says that it never stops processing the information (when one hemisphere of its brain rests, the other takes over the task of scrutinizing the environment). Her synaesthesia and the way she investigates her environment and the problems she focuses on are examples of an approach common to complexity science which we have already referred to in the introduction.

Consequently, when it comes to defining what science means to Alicia and Bobby Western, one arrives at the conclusion that for the siblings it (science) is a way to satisfy the characters' thirst for knowledge and curiosity, an intellectual endeavour for two analytical minds, a kind of knowledge that can be used for destruction (therefore it should be avoided), a way of understanding and communicating with the world and like minds, and also a way of coping with their „cosmic" loneliness.

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[11] MCCARTHY, Cormac: *Stella Maris*. Knopf, 2022. 124.
[12] SHAKESPEARE, William: *Hamlet, Prince of Denmark* in *The Illustrated Stratford Shakespeare*. Chancellor Press, 1994. 899.
[13] BUDAC, Alexandru*: Ghost Light. The Strange Fabric of Reality in Cormac McCarthy's The Passenger*. In: Hortensia Parlog (ed.): *BAS A Journal of Romanian Society of British and American Studies*. Department of English Language and Literature, Timisoara, 2025. 29.

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III.

After reading George Berkley's An Essay Towards a New Theory of Vision, the high-school aged Alicia becomes a solipsist and arrives at the conclusion that the universe is indifferent regarding the fate of mankind. Furthermore, man can only live and survive with the help of other people and living creatures. So, she wakes up to the truth that there is a mutual interdependence of all living things and humankind is responsibile for the fate of the living world.

Shortly before she commits suicide, she voluntarily returns to the Stella Maris psychiatric institute in Black River Falls, Wisconsin seeking the company of psychiatric patients, her only „family" left (she assumes that her brother will not be able to wake up from his coma after his racing car accident in France), with whom she feels deep kinship and many of whom are quite fond of her as she feels love and compassion for her fellow-men and respects animals. By this time her coquetry with death has had a long personal history as she has spent considerable time of meditating on different ways to commit suicide. In her early teens when her aunt asks her what she would like to be as an adult, she replies that she would like to be a dead person. Alicia considers death the best way to escape suffering and she is convinced that if human beings would not be afraid of dying, much more people would choose to put an end to their lives. The only thing, which is stronger than her deathwish is her incestuous love for her brother and when she realizes that Bobby has little or no chance to recover from his coma, her self-destructive urge prevails. She remains truthful to her only love, her brother, and never lets herself be overcome by self-deception. Everyone acknowledges her as a savagely honest person with herself and others. Her return to Stella Maris shows her need for compassion illustrated by the scene when she asks her psychiatrist to hold her hands during their last session. When her doctor asks her why she is asking for such a gesture, she replies that this is what people do when something has come to an end.

Similarly to Alicia, Bobby has his own quasi family which is made up of his war comrades, diver team members and a few childhood friends. He does not judge people or want to convince them to live a more conventional life, on the contrary he accepts them as they are. He believes in comradeship and respects all living creatures. When the youngest of his team members, Oiler, asks about his greatest regrets connected to the Vietnam war, he mentions a scene when on a clearing he and his comrades ran into a herd of elephants who were trying to protect their babies from them and thus, the animals cut their escape route and therefore were killed by the helicopters rescuing the soldiers.

His love for Alicia is as deep as his sister's, nevertheless he resists the temptation to enter into an incestuous relationship with her despite the fact that Alicia is inclined to take this step. Their affection for each other has the depth of human relationships pictured in ancient Greek tragedies.

The siblings' relationship with their parents is a complex question as their father and mother had their share in the destruction of Hiroshima, a burden that they need to carry and questions that they need to continuously reflect on and to reply to when asked by others. On one hand, as scientists, they are able to

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comprehend their father's excitement and intellectual curiosity regarding nuclear research, his obsession with his work and his admiration for Oppenheimer's exceptional giftedness. On the other hand, Oppenheimer's and their father's absence of remorse regarding the mass murder in Hiroshima though tackled seemingly detachedly, ethically is inconcievable to them no matter how dearly they love both of their parents. Being a scientist of this sort and a father who's task is to protect and procreate life at the same time, are two opposing and unreconcilable roles. When it comes to their mother, they recall the grief of losing the intimacy and care she meant for them due to her nervous breakdown and later to her untimely death caused by cancer.

Alicia and Bobby's deep care and attachment towards human and animal misery is meant to compensate for the inimaginable destruction caused by the atomic bomb. Their lives are determined by a continuous and desperate attempt to understand this duality of human nature which can be both destructive and capable of extraordinary things (e.g. the creation of the violin). According to Bobby, suffering is the only way that can lead us to wisdom, and Alicia's answer to suffering is love and care which brings along healing. The atomic bomb regardless of how horrific effect it had, can thus mark a new beginning by teaching us the cruel lesson of how fragile life is.

IV.

Both characters' obsession with death shows an ethical concern. Bobby's deathwish is unconscious, unlike Alicia's. The jobs he undertakes are extremely dangerous and most probably fed by the unconscious escapist desire to get rid of the parental burden and to put an end to the suffering caused by the impossible and unfulfilled love towards her sister. Bobby believes in a universe governed by the laws of physics, but at the end of The Passenger, he gains faith. Alicia's longing for death on the other hand is also dual in nature and is fed firstly, by the formerly mentioned desire to get rid of her parental legacy and the remorse that accompanies it, and secondly, to dispose of a life which deprives her of the last person she loves, her brother.

In McCarthy's two novels „the bomb" means so much more than the actual destruction of Hiroshima: it shatters the foundation of western society and questions the validity of the ideals that it was built on: morality, faith and science as symbol of great human achievements. As William Spencer observes: „The problem of evil is a pervasive theme in the novels of Cormac McCarthy, and it is perhaps the issue of human existence that he is most interested in confronting in his fiction."[14]

Death is the only „objective" reality that a human being can experience, a state in which the human mind stops functioning and emotions and suffering cease to exist. The question that has never been answered is how lifeless and unconscious matter can create (and recreate) life and consciousness if there is no

[14] SPENCER,William C.: *„Cormac McCarthy's Unholy Trinity: Biblical Parody in* Outer Dark*"*. In: Wade H. Hall–Rick Wallach (ed.): *Sacred Violence, 2nd edn, II vols.* El Paso: Texas Western Press/University of Texas at El Paso, 2002. 89.

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higher entity? Alicia knows and Bobby first seeks, then at the end finds the proof of such an entity, one that manifests itself through love, care, beauty and morality and eases the suffering of the living universe.

Finally, as Shabbir Ahmad et al. formulated their thoughts about the author's fictional universe: „Cormac McCarthy's novels investigated the ethical dimensions of a new world and endeavor to return to ethics and to establish a transcendent human order where ethics precedes ontology and philosophy."[15]

[15] SHABBIR Ahmad–MUHMAD Ilyas Mahmood–MOBASHRA Mobeen: *Redefining Americanism and American Literary Tradition: Hospitality, Ethics and Transcendent Humanism in Cormac McCarthy's Fiction Reality*. Pakistan Social Sciences Review, 2020/1. 850.

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References

BUDAC, Alexandru*: Ghost Light. The Strange Fabric of Reality in Cormac McCarthy's The Passenger*. In: Hortensia Parlog (ed.): *BAS A Journal of Romanian Society of British and American Studies*. Department of English Language and Literature, Timisoara, 2025. 27–36.

CS. GYÍMESI Éva: *Teremtett világ. Rendhagyó bevezetés az irodalomba*. Pátria Könyvek, H. n., 1992.

DORSON, James: *Cormack McCarthy and the Genre Turn In Contemporary Literary Fiction*. European Journal of American Studies, 2017/3. 1–16. DOI: 10.4000/ejas.12253

DOWD, Ciarán: *„The Santa Fe Institute." CormacMcCarthy in Context*, ed. by Steven Frye, Cambridge UP, 2020.

FRYE, Steven: *„An Unknown Tongue:God, Complexity and the Limits of Secular Epistemology in Cormac McCarthy's The Passenger and Stella Maris*. MFS Modern fiction Studies, 2024/4. 700–722. DOI: 10.1353/mfs.2024.a950449

HEISENBERG, Werner: *Physics and Philosophy: the Revolution in Modern Science*. Allan§Unwin Publ., 1958.

MCCARTHY, Cormac: *Stella Maris*. Knopf, 2022.

MCCARTHY, Cormac: *Az utas. Stella Maris*. Jelenkor, Bp., 2023.

SHAKESPEARE, William: *Hamlet, Prince of Denmark in The Illustrated Stratford Shakespeare*. Chancellor Press, 1994.

SPENCER,William C.: *„Cormac McCarthy's Unholy Trinity: Biblical Parody in* Outer Dark*"*. In: Wade H. Hall–Rick Wallach (ed.): *Sacred Violence, 2nd edn, II vols*. El Paso: Texas Western Press/University of Texas at El Paso, 2002. 83–91.

SHABBIR Ahmad–MUHMAD Ilyas Mahmood–MOBASHRA Mobeen: *Redefining Americanism and American Literary Tradition: Hospitality, Ethics and Transcendent Humanism in Cormac McCarthy's Fiction Reality*. Pakistan Social Sciences Review, 2020/1. 849–861. DOI: 10.35484/pssr.2020(4-I)65

Absztrakt

ERKÖLCS ÉS TUDOMÁNY AZ ATOMBOMBA ÁRNYÉKÁBAN CORMAC MCCARTHY *AZ UTAS* ÉS *STELLA MARIS* CÍMŰ REGÉNYEIBEN

A két regény egy testvérpár, egy fiú és egy lány életútját mutatja be, akiknek szülei részt vettek a Manhattan Tervben, és akik gyermekkorukat Los Alamosban töltötték. Az atombomba kifejlesztése és bevetése az ő sorsukat is meghatározza, hiszen felnőtt életükben mindketten megküzdeni kénytelenek e súlyos szülői örökséggel. Ez utóbbi arra készteti őket, hogy a maguk módján megvizsgálják a tudomány és erkölcs viszonyát. A tanulmány azt kívánja bemutatni, hogy a testvérpár két tagja hogyan viszonyul ehhez a számukra kulcsfontosságú kérdéshez.

Kulcsszavak: tudomány, erkölcs, atombomba, Manhattan Terv

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Kiš-Novak Darinka–Ivančić Sara

OPAŽANJE I BILJEŽENJE OPAŽANJA KAO OSNOVA AKTIVNOG UČENJA U PRIRODOSLOVLJU NA PRIMJERU MIKROSKOPIRANJA PAPUČICE, *PARAMECIUM SP.*

Uvod

Aktivno učenje predstavlja bitan element suvremenog obrazovanja koji potiče učenike na samostalno istraživanje, analizu informacija, povezivanje različitih koncepata i kritičku procjenu. Takav način rada omogućava učenicima dublje razumijevanje teorijskih sadržaja, čime se povećava njihova sposobnost primjene naučenog u stvarnim životnim situacijama. Razvoj kritičkog mišljenja i učenikova aktivna uloga u vlastitom procesu učenja su neka od ključnih elemenata aktivnog učenja. Osim što stječu znanja, učenici pomoću tih elemenata razvijaju i potrebne vještine za rješavanje problema što ih čini pripremljenima na izazove izvan učionice.[1]

Metode aktivnog učenja su raznolike i uključuju iskustveno, problemsko i projektno učenje, učenje otkrivanjem i istraživanjem, rješavanje problema, učenje usmjereno na djelovanje te učenje kroz igru.[2] Ove strategije pomažu u razvoju ključnih kompetencija, uključujući prirodoslovne i digitalne vještine, komunikacijske i socijalne sposobnosti te poduzetnički duh, što su ključni ishodi učenja u nastavnom predmetu Prirode i društva.

Nadalje, važno je istaknuti da aktivno učenje ne samo da doprinosi akademskom napretku, već i razvoju emocionalne i socijalne inteligencije. Kroz suradničko učenje i grupne aktivnosti, učenici stječu vještine učinkovite suradnje, komunikacije i izgradnje socijalnih mreža koje im mogu biti od koristi u budućem životu. Kako bi se postiglo sve navedeno, učitelji i nastavnici trebaju kontinuirano raditi na unapređenju svojih metoda poučavanja, koristeći suvremenu tehnologiju i prilagođavati se promjenama u obrazovnom okruženju, osiguravajući na taj način relevantno i primjenjivo znanje za učenike.[3]

U prirodoslovnom obrazovanju, opažanje se izdvaja kao ključna metoda aktivnog učenja. Ono podrazumijeva sustavno prikupljanje podataka putem promatranja, kao što su, primjerice, laboratorijski eksperimenati.[4] Ova metoda omogućuje učenicima da teorijske koncepte sagledaju u konkretnim, stvarnim ili simuliranim situacijama, čime razvijaju sposobnost primjećivanja detalja,

[1] BERRY, W.: *Surviving lecture: A pedagogical alternative*. College Teaching, 2008/3. (56), 149–154.
[2] DE ZAN, I.: *Metodika prirode i društva*. Školska knjiga, Zagreb, 2005.
[3] MORTON, A.: *Lecturing to large group*: *A Handbook for Teaching and Learning in Higher Education*. In: H. Fry–S. Ketteridge–S. Marshall (Eds.): *Enhancing Academic Practice*. Routledge, New York, 2009. 213–449.
[4] PRINCE, M.: *Does active learning work? A review of the research*. Journal of Engineering Education, 2004/3. (93.) 223–231.

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poboljšavaju konceptualno razumijevanje i potiču kritičko mišljenje. Kroz interakciju s vršnjacima tijekom eksperimenata, učenici dijele opažanja, razmišljanja i ideje, čime se dodatno produbljuje njihovo znanje. Bilježenje opažanja kroz pisanje bilješki, snimanje videa ili fotografiranje dodatno potiče učenike na aktivno sudjelovanje i povećava njihovu motivaciju[5].

Pandemija COVID-19 donijela je značajne promjene u obrazovnom sustavu, uključujući prelaz s kontaktne nastave na nastavu na daljinu, što je razotkrilo mnoge izazove. Prema istraživanju Agencije za znanost i visoko obrazovanje[6] identificirale su se brojne poteškoće u izvođenju nastavnog procesa. Tehnički problemi, loša organizacija *online* ispita, nedovoljna osposobljenost nastavnika za rad na digitalnim platformama te manjak praktičnog rada i prakse samo su neki od tih problema, a posebno su važni u prirodoslovnom obrazovanju. Manjak praktičnog rada koji je rezultirao smanjenjem konceptualnog razumijevanja sadržaja, vidljiv je u rezultatima provedenog istraživanja.

U ovom radu postavljen je primjer primjene opažanja i bilježenja opažanja temeljenog na aktivnom učenju. Studenti učiteljskog fakulteta imali su priliku pokazati svoje vještine opažanja i bilježenja opažanja mikroskopiranjem dva preparata papučice, *Paramecium sp,* koristeći se strukturiranim radnim listovima. U radu su prikazani i njihovi komentari o primjeni aktivnog učenja, pojedinim aktivnostima te učinku aktivnosti na razumijevanje nastavnog sadržaja. Tim se rezultatima može uvelike olakšati učiteljima/profesorima planiranje nastave, a time i kvalitetnije usvajanje sadržaja studenata.

Metode

U ovom istraživanju naglašena su opažanja i bilježenja opažanja kao temeljni elementi aktivnog učenja u području prirodoslovnih znanosti, a za primjer promatranja odabrana je papučica, *Paramecium sp*. Odabir papučice za istraživanje bio je motiviran njenim jednostavnim uzgojem, pristupačnim materijalima potrebnima za uzgoj, jednostavnim rukovanjem i pripremom preparata za mikroskopiranje. Osim toga, preparat je i dio nastavnoga programa Učiteljskog fakulteta čiji su studenti aktivno sudjelovali u istraživanju. Također je i čest predmet proučavanja u osnovnim i srednjim školama. Papučice koje su korištene u istraživanju uzgojene su domaćim uzgojem.

[5] PRINCE, 2004.
[6] AZVO, 2011. Agencija za znanost i visoko obrazovanje [AZVO]: *Studenti i pandemija: Kako smo (pre)živjeli?*. 2021. https://www.azvo.hr/images/stories/novosti/Rezultati_istra%C5%BEivanja_Studenti_i_pandemija__Kako_smo_pre%C5%BEivjeli_lektorirano.pdf (25.5.2024.)

DOI: 10.55072/DN.2026.1.133

Slika 1. Uzgoj papučice, Paramecium sp. *(foto: Ivančić, 2024.)*

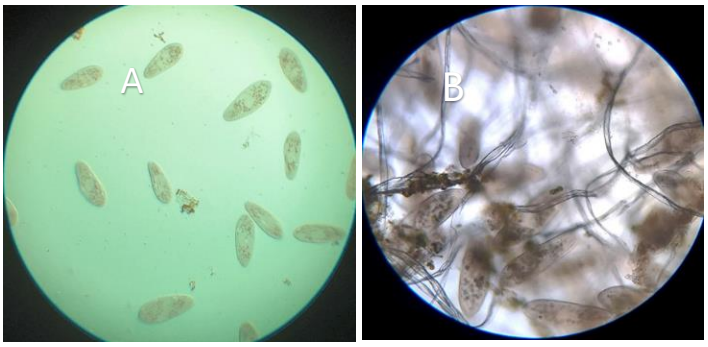
U istraživanja je sudjelovalo ukupno 109 studenata Učiteljskog fakulteta Odsjeka u Čakovcu. Sudionici su studenti prve godine Učiteljskog studija (N=31), druge godine Učiteljskog studija (N=34) te prve godine Ranog i predškolskog odgoja i obrazovanja (N=44). Studenti prve godine Ranog i predškolskog odgoja i obrazovanja sudjelovali su u istraživanju u sklopu redovne praktikumske nastave, dok su studenti Učiteljskog studija sudjelovali izvan redovne nastave radi potrebe istraživanja. Svaka studenska grupa imala je zasebna predavanja tijekom kojih su provedene aktivnosti, no prije samog predavanja nisu imali informaciju o zadatku koji će obavljati. Prije samostalnog izvođenja zadanih aktivnosti, sudionici je održano kratko izlaganje kako bi se upoznali s preparatom koji će promatrati. Aktivnosti su provedene tijekom zimskog semestra 2023.godine u prostorijama Učiteljskog fakulteta Odsjeka Čakovec.

Ispitanici su dodijeljeno 90 minuta za provedbu aktivnosti koje su obuhvaćale promatranje papučice, opažanje njenog ponašanja te bilježenje tih opažanja na strukturirani radni list. Radni list pruža smjernice za ključne aspekte na koje treba obratiti pozornost prilikom mikroskopiranja preparata. Zbog ograničenog broja mikroskopa, aktivnosti su bile organizirane u skupinama do pet studenata. Unatoč radu u grupama, svaki je student samostalno promatrao i bilježio svoja opažanja. Zadatak studenata bio je promatrati papučice u preparatu sa (slika 2A) i bez vate (slika 2B). Cilj ovog promatranja bio je identificirati i zabilježiti stanične strukture papučice te opisati način njenog kretanja u oba preparata, a na temelju tih opažanja odgovoriti na pitanja postavljena na strukturiranim radnim listovima. Za svaki zadatak izrađena je tablica u programu Microsoft Excel, u kojoj su odgovori ispitanika kodirani specifičnim kodovima[7]. Osim kodiranja, zadatci su podvrgnuti analizi točnosti, razini točnosti te razini razumijevanja sadržaja. Prilikom analize se posebna pažnja posvetila biološkoj preciznosti, odnosno točnosti interpretaciji bioloških pojmova i procesa. Također,

[7] RADANOVIĆ, Ines–GARAŠIĆ, Diana–LUKŠA, Žaklin–RISTIĆ-DEDIĆ, Zrinka–PERIĆ, M.–JOKIĆ, B.: *Understanding of photosynthesis concepts related to students' age.* Learning science, Conceptual understanding, 2016. 271–277.

DOI: 10.55072/DN.2026.1.133

protokoli su obrađeni Kruskal-Wallis H Testom kako bi se utvrdile statistički značajnije razlike između odgovora ispitanika. Cilj ove analize bio je procijeniti točnost odgovora ispitanika, znanstvenu valjanost njihovih zaključivanja ti razinu razumijevanja sadržaja obuhvaćenih zadatkom. Ukupno je analizirano 1090 zadataka. Osim analize odgovora ispitanika ovog istraživanja, napravljena je i usporedba sa primarnim istraživanjem provedenim 2019. godine, koje je provedeno prije pandemije COVID-19. U tom su istraživanju sudjelovali studenti iz više fakulteta, no za potrebe ovog istraživanja, uzeti su samo rezultati studenata Učiteljskog fakulteta. Cilj usporedbe rezultata je usporediti sposobnosti opažanja i bilježenja opažanja studenata Učiteljskog fakulteta prije i poslije pandemije COVID 19. Anketni upitnik i strukturirani protokoli preuzeti su iz tog istraživanja.[8]



Slika 2. *A – mikroskopski preparat papučica bez vate; B – mikroskopski preparat papučica s vatom (foto: Ivančić i Kiš-Novak, 2024.)*

Nakon provedbe navedenih aktivnosti, studentima je dan kratki anketni upitnik s ciljem njihove upućenosti u tematiku praživotinja prije provedenog istraživanja te prikupljanje njihovih dojmova o metodama rada temeljenih na opažanju i bilježenju opažanja. Upitnik je sadržavao pet pitanja, od kojih su dva bila otvorenog tipa, a tri zatvorenog. Ukupno je analizirano 545 zadataka.

Rezultati

Analizom odgovora ispitanika, temeljenom na promatranju papučice, utvrđeno je da nema statistički značajnih razlika u točnosti između studenata prve i druge godine Učiteljskog fakulteta te studenata prve godine Ranog i predškolskog odgoja i obrazovanja (graf 1). Međutim, usporedba rezultata s prethodnim istraživanjem je pokazala da postoji statistički značajna razlika u broju djelomično točnih i netočnih odgovora, koji su bili nepravilno ili pogrešno formulirani (graf 2).

[8] SERTIĆ PERIĆ M.–MATIĆ, A. M.–KIŠ-NOVAK, D.–VIGNJEVIĆ, G.–LABAK, I.: *Primjena aktivnog učenja temeljenog na aktivnostima promatranja i bilježenja opažanja na primjeru mikroskopiranja papučice, Paramecium* sp. Educatio biologiae, 2019/5. 34–46.

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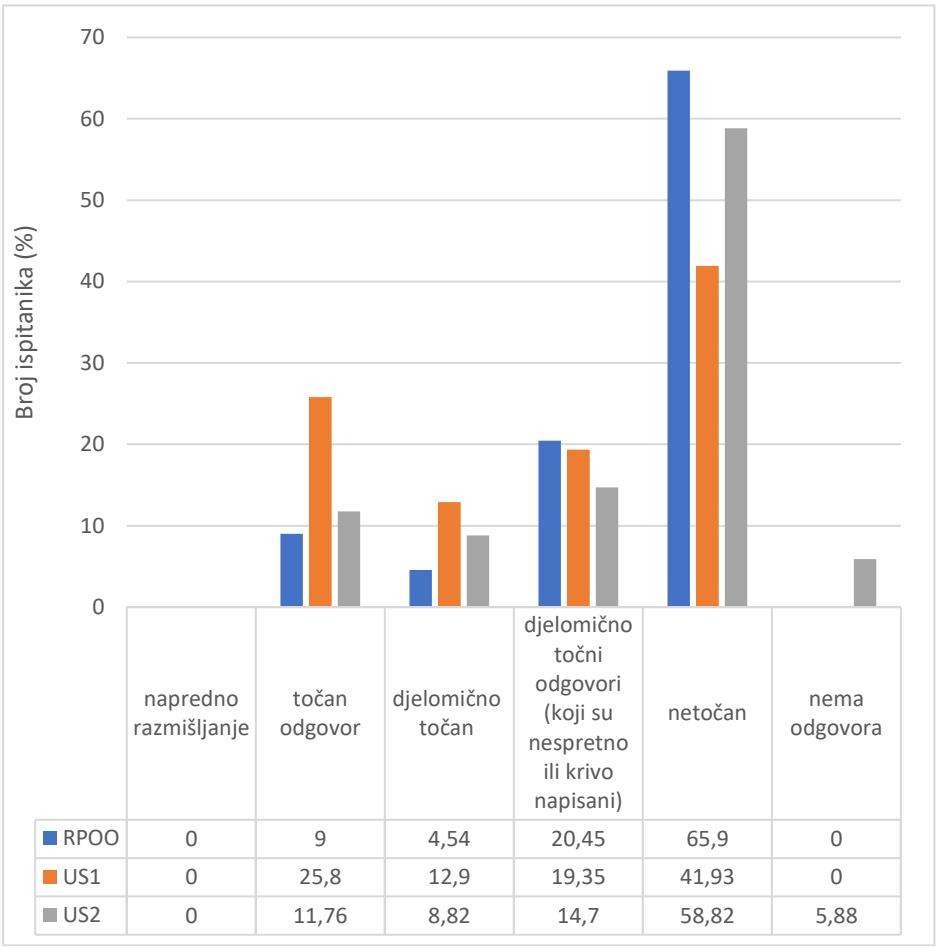
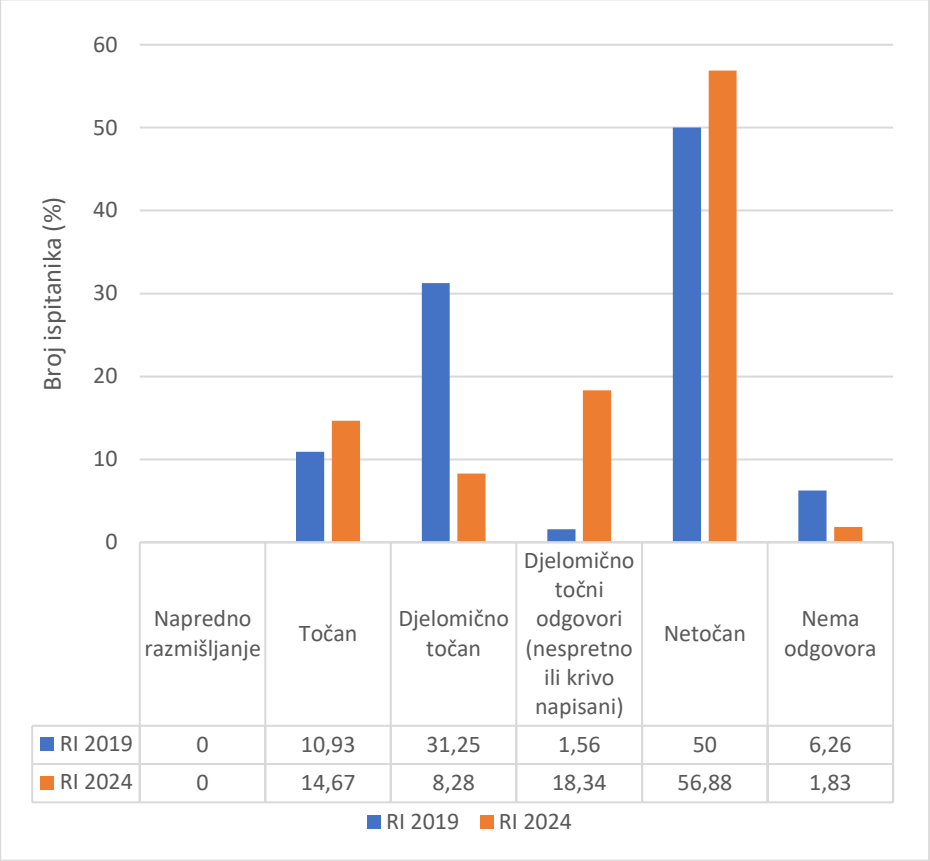


Graf ***Hiba! A(z) o itt megjelenítendő szövegre történő alkalmazásához használja a Kezdőlap lapot.****1. Rezultati analize razine točnosti između studenata prve (US1) i druge godine (US2) Učiteljskog studija te prve godine studenata Ranog i predškolskog odgoja i obrazovanja (RPOO)*

DOI: 10.55072/DN.2026.1.133



*Graf **Hiba! Nincs ilyen stílusú szöveg a dokumentumban.**2. Usporedba rezultata analize razine točnosti odgovora istraživanja provedenog 2019. (RI 2019) i 2024. godine (RI 2024)*

Analizom razine razumijevanja sadržaja nije utvrđena statistički značajna razlika između različitih ispitnih skupina (graf 3). Međutim, usporedba s prethodnim istraživanjem pokazuje značajne razlike u konceptualnom razumijevanju i konceptualnom nerazumijevanju (graf 4). Konkretno, ispitanici iz primarnog istraživanja pokazali su bolje razvijeno konceptualno i djelomično konceptualno razumijevanje, dok su ispitanici ovog istraživanja pokazali veću sklonost konceptualnom nerazumijevanju i pružali više besmislenih odgovora.

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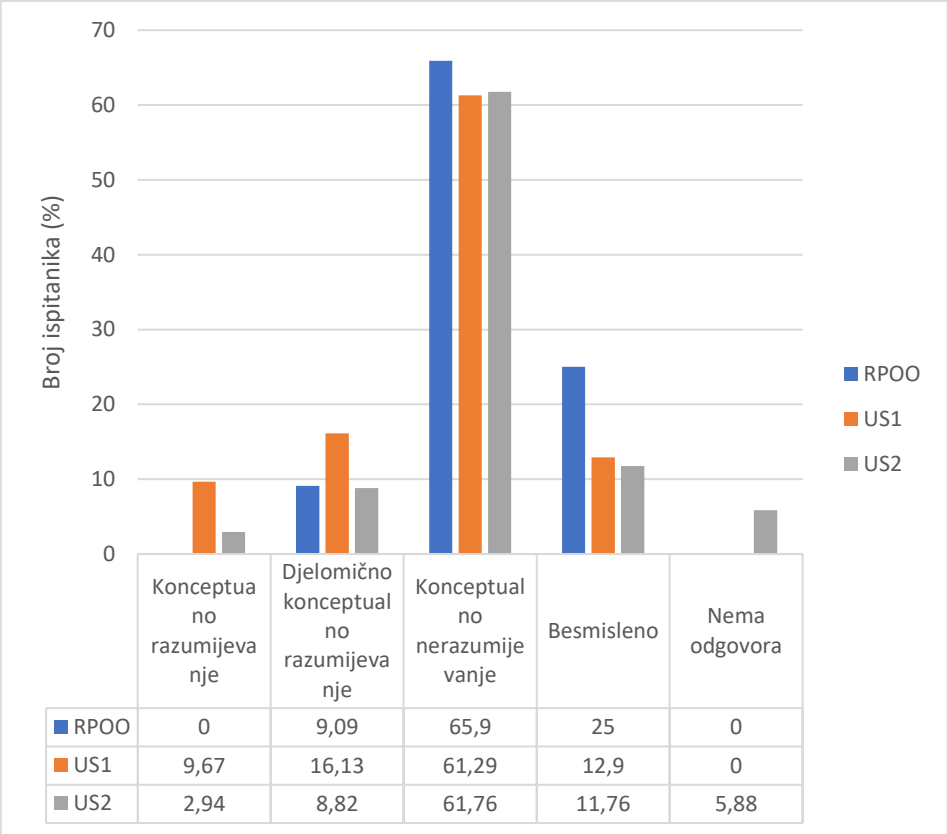

	Konceptualno razumijevanje	Djelomično konceptualno razumijevanje	Konceptualno nerazumijevanje	Besmisleno	Nema odgovora
RPOO	0	9,09	65,9	25	0
US1	9,67	16,13	61,29	12,9	0
US2	2,94	8,82	61,76	11,76	5,88

Graf 3. Rezultati analize razine razumijevanja sadržaja studenata Ranog i predškolskog odgoja i obrazovanja (RPOO) te prve (US1) i druge godine (US2) Učiteljskog studija

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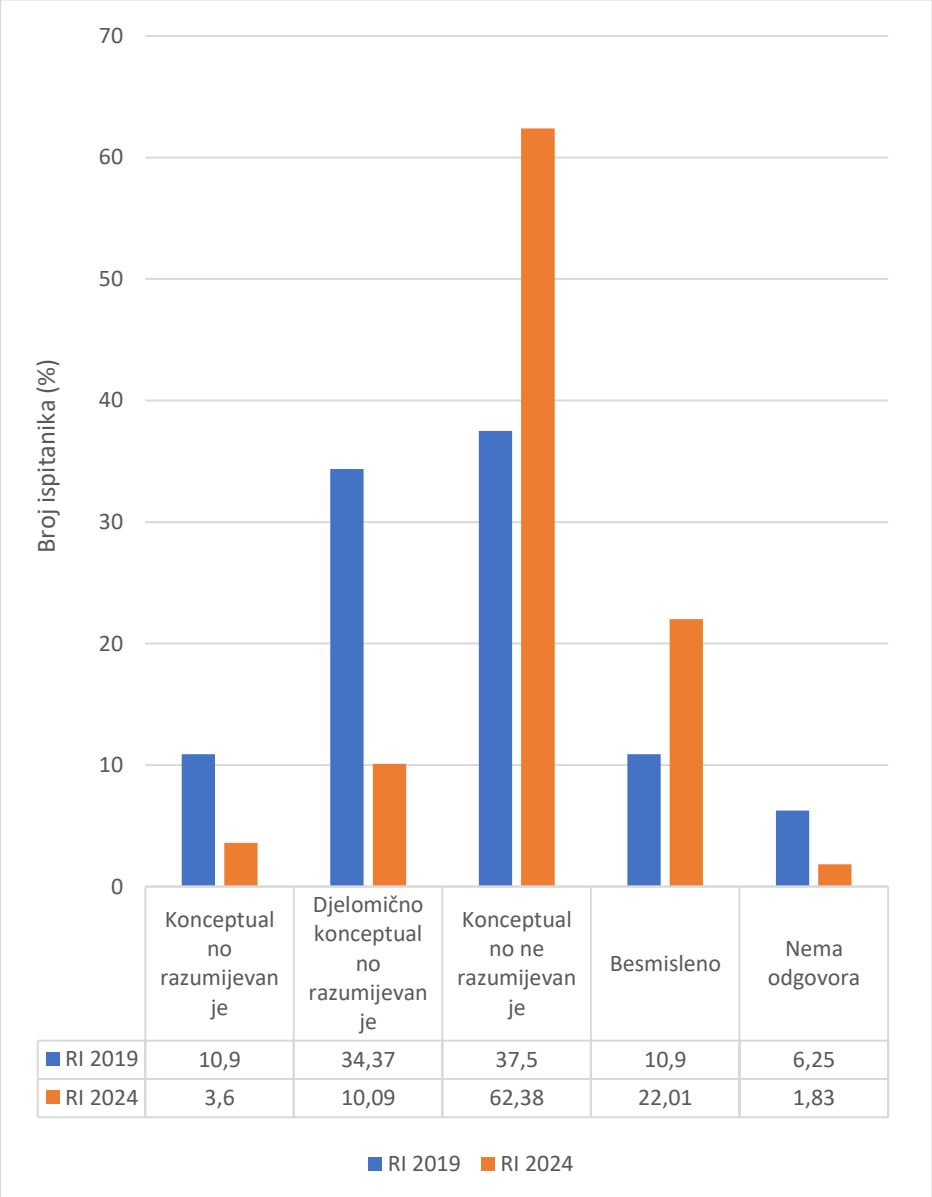
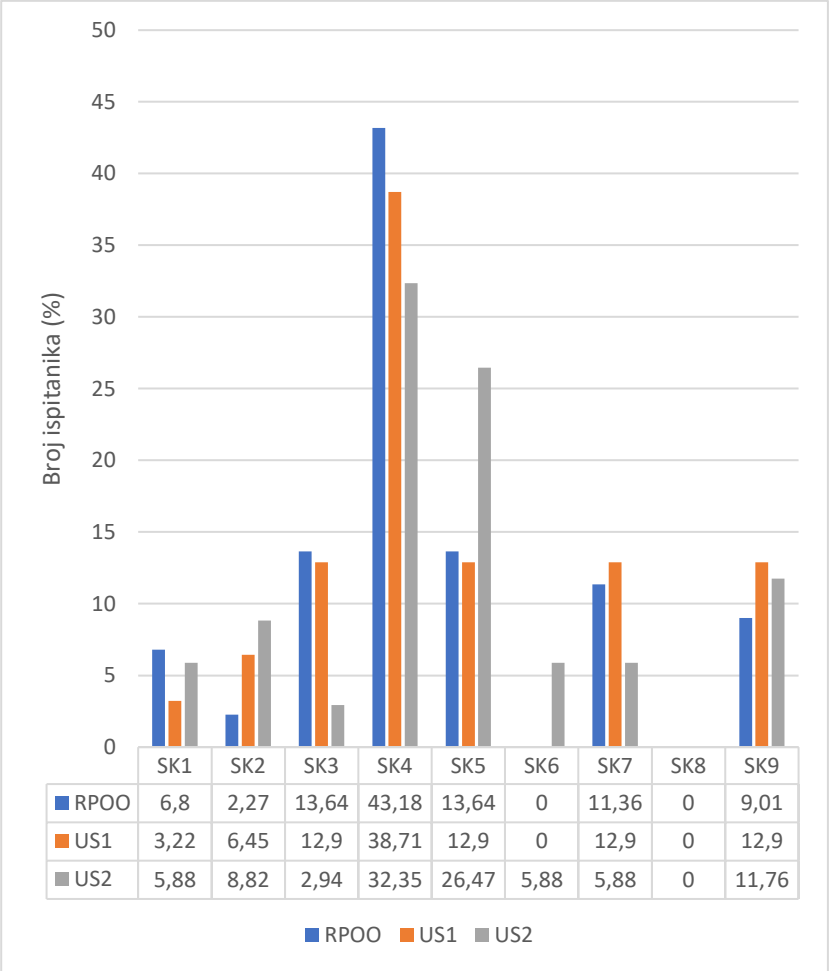


Graf 4. Usporedba rezultata analize razumijevanja u istraživanjima provedenim 2019. (RI 2019) i 2024. godine (RI 2024)

DOI: 10.55072/DN.2026.1.133

Analizom opisnih zadataka utvrđeno je da studenti Učiteljskih studija u većem postotku odgovaraju na pitanja koristeći potpune rečenice i dajući obrazloženja, u usporedbi sa studentima Ranog i predškolskog odgoja i obrazovanja (graf 5).

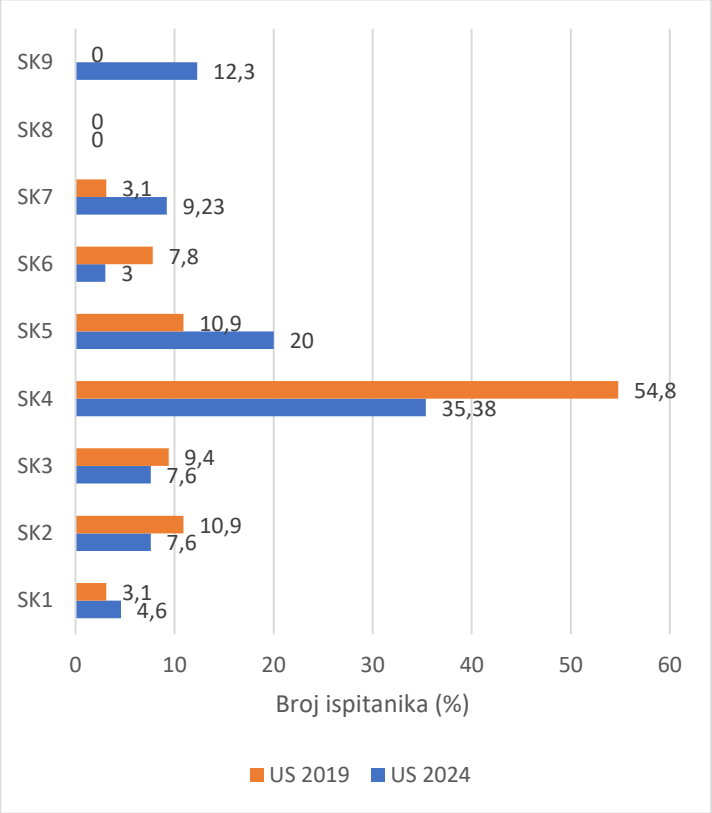


	SK1	SK2	SK3	SK4	SK5	SK6	SK7	SK8	SK9
RPOO	6,8	2,27	13,64	43,18	13,64	0	11,36	0	9,01
US1	3,22	6,45	12,9	38,71	12,9	0	12,9	0	12,9
US2	5,88	8,82	2,94	32,35	26,47	5,88	5,88	0	11,76

Graf 5. Rezultati analize specifičnog kodiranja odgovora između studenata prve godine Ranog i predškolskog odgoja i obrazovanja (RPOO) te prve (US1) i druge (US2) godine Učiteljskog studija

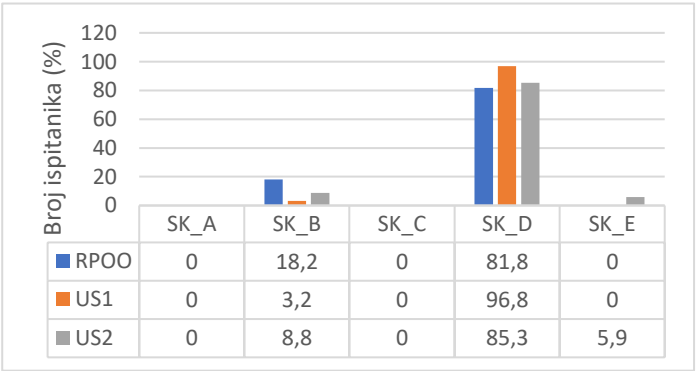
Usporedba rezultata pokazuje da studenti iz ovog istraživanja češće odgovaraju na pitanja točno koristeći potpune rečenice, dok su studenti iz 2019. godine davali točne odgovore, ali bez dodatnog obrazloženja (graf 6).

DOI: 10.55072/DN.2026.1.133



Graf 6. Usporedba rezultata analize specigičnog kodiranja dobivenih istraživanjima provedenim 2019 (US 2019) te 2024. godine (US 2024)

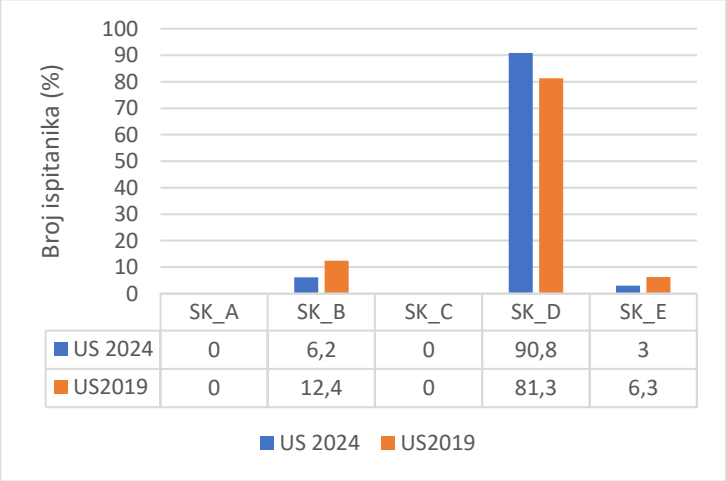
Analizom crteža je primijećeno da ne postoji statistički značajnija razlika u prikazivanju papučice (graf 7) kao ni kod usporedbe s primarnim istraživanjem (graf 8). predškolskog odgoja i obrazovanja (RPOO) te prve (US1) i druge (US 2).



	SK_A	SK_B	SK_C	SK_D	SK_E
RPOO	0	18,2	0	81,8	0
US1	0	3,2	0	96,8	0
US2	0	8,8	0	85,3	5,9

Graf 7. Rezultati analize crteža papučica prve godine Ranog i (US2) godine Učiteljskog studija

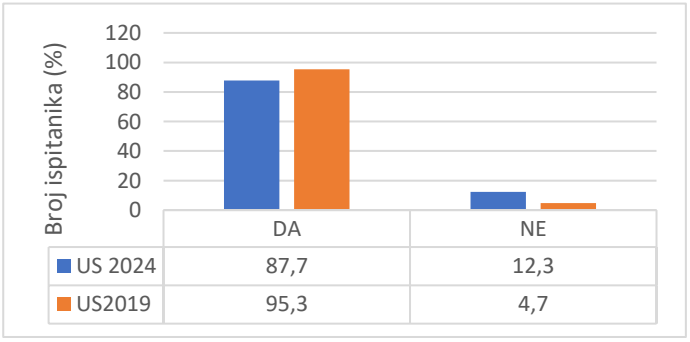
DOI: 10.55072/DN.2026.1.133



Graf 8. Usporedba rezultata analize crteža sudionika provedenih istraživanja 2019. (US 2019) te 2024. godine (US 2024)

Nakon završetka istraživanja, sudionicima je dostavljena anketa koja je obuhvaćala pet pitanja povezanih s provedenim istraživanjem. Prva tri pitanja bila su formulirana kao tvrdnje koje su ispitanici trebali potvrditi ili opovrgnuti, dok su preostala dva pitanja bila otvorenog tipa i podvrgnuta analizi pomoću specifičnih kodova. Prikupljeni rezultati uspoređeni su s podacima iz istraživanja provedenog 2019. godine.[9] Ukupno je analizirano 545 odgovora iz tekuće ankete, dok su rezultati iz 2019. preuzeti iz prethodnog istraživanja.

Prva tvrdnja odnosila se na prethodno sudjelovanje ispitanika na predavanju o jednostaničnim organizmima, s posebnim naglaskom na trepetljikaše. Analiza rezultata pokazala je da je najveći postotak ispitanika u obje ispitne skupine dao potvrdan odgovor na ovu tvrdnju, što je prikazano u grafu 9.



Graf 9. Usporedba rezultata analize odgovora na prvo pitanje u istraživanjima provedenim 2019. (US 2019) te 2024. godine (US 2024)

[9] MATIĆ, A. M.: *Promatranje i bilježenje kao osnova učenja u biologiji. Diplomski rad*. 2019. https://urn.nsk.hr/urn:nbn:hr:217:346389 (14.04.2024.)

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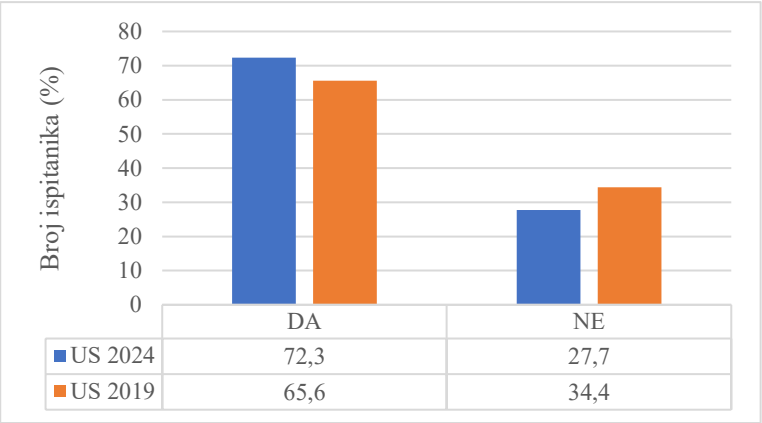
U drugom zadatku ispitanicima je postavljena tvrdnja jesu li prije ovog istraživanja koristili mikroskop za promatranje trepetljikaša. Analiza usporedbe s rezultatima istraživanja iz 2019. godine[10] pokazala je da je najveći udio ispitanika u oba uzorka dao potvrdan odgovor na postavljenu tvrdnju (graf 10).



Graf 10. Usporedba rezultata anketne analize odgovor na drugo pitanje u istraživanjima provedenim 2019. (US 2019) te 2024. godine (US 2024)

Treće pitanje zahtijevalo je od sudionika da prepoznaju strukture trepetljikaša s kojima su se po prvi put susreli tijekom istraživanja. Ova je analiza provedena putem specifičnih kodova (tablica 1). Uspoređujući rezultate s prethodnim istraživanjem, uočeno je da sudionici istraživanja iz 2024. godine u većem postotku već poznaju strukturu papučice iz svog srednjoškolskog i osnovnoškolskog obrazovanja (graf 11).

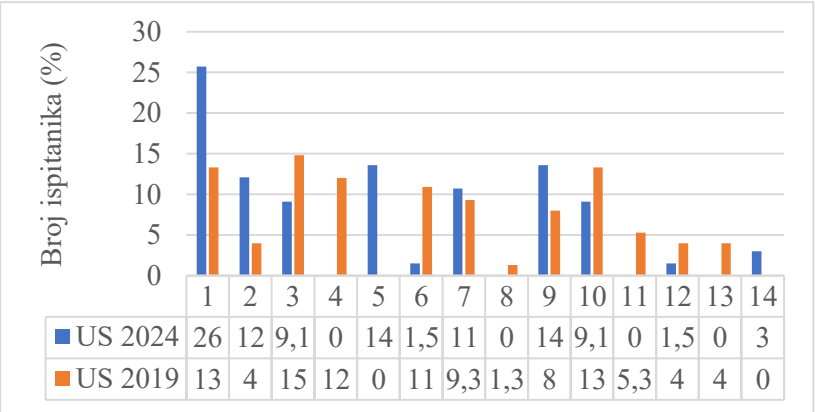
Opis specifičnog koda	**Brojčani kod**
Sve je poznato od prije (iz srednje škole i slično)	1
Sve strukture su nove	2
Nema odgovora / ne zna / nije siguran	3
Bazalna tjelešca (kinetosom)	4
Pojam/vrste trepetljikaša i/ili vrste papučice	5
Probavni mjehurići	6

[10] MATIĆ, 2019.

DOI: 10.55072/DN.2026.1.133

Stanična usta / citosom	7
„Želudac“	8
Makronukleus i/ili mikronukleus/jezgra	9
Trepetljike (na staničnim ustima) / pelikula	10
U odgovoru nisu navedene strukture, nego postupci bojanja papučica	11
U odgovoru nisu navedene strukture, nego ponašanje papučice	12
U odgovoru nisu navedene strukture, nego samo da je prikazana detaljno	13
Prvi put se susreću s papučicom	14

Tablica 1.Opis specifičnih kodova na pitanje 3 u anketama provedenih istraživanja 2019. i 2024. godine



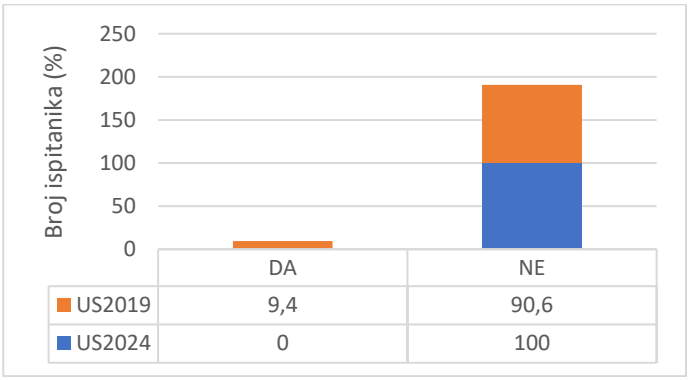
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
US 2024	26	12	9,1	0	14	1,5	11	0	14	9,1	0	1,5	0	3
US 2019	13	4	15	12	0	11	9,3	1,3	8	13	5,3	4	4	0

Graf 11. Usporedba rezultata analize specifičnog kodiranja odgovora na pitanje 3 u anketi istraživanja provedenog 2019. (US 2019) te 2024. godine (US 2024)

U četvrtom zadatku od studenata se tražilo da potvrde ili negiraju tvrdnju o tome jesu li imali poteškoća s praćenjem istraživačke nastave i mikroskopiranja. Usporedbom rezultata s istraživanjem iz 2019. godine [11]utvrđeno je da su studenti u 2024. godini u potpunosti (100 %) izjavili da im praćenje nastave i mikroskopiranje papučice nije predstavljalo poteškoću, dok je 9,4 % sudionika iz 2019. godine navelo da su imali teškoće u praćenju tih aktivnosti (graf 12).

[11] MATIĆ, 2019.

DOI: 10.55072/DN.2026.1.133



Graf 12. Usporedba rezultata analize odgovora na pitanje 4 sudionika istraživanja provedenih 2019. (US 2019) te 2024. godine (US 2024)

U posljednjem pitanju ankete od sudionika je zatraženo da podijele svoje dojmove o provedenoj istraživačkoj nastavi. Ovaj zadatak analiziran je pomoću specifičnih kodova (graf 13), a detaljni opisi prikazani su u tablici 2. Usporedbom rezultata s istraživanjem iz 2019. godine[12] primijećeno je da je u obje ispitne skupine najveći udio ispitanika odgovorio kako im je nastava bila zanimljiva i poučna te su izrazili sklonost prema takvim vježbama (US 2024 35,4 %, US 2019 31,3 %). Sličan udio ispitanika iz obje godine naveo je da im se istraživanje svidjelo zbog dobre organizacije i jasnih objašnjenja voditelja (US 2024 20 %, US 2019 15,6 %) ili su dali pozitivne odgovore bez dodatnih obrazloženja (US 2024 24,6 %, US 2019 21,8 %). U istraživanju iz 2019. godine veći postotak ispitanika naveo je da im zadatak nije bio težak jer su prethodno upoznati s gradivom (12,5 %), kao i da su imali poteškoće zbog nedostatka iskustva s mikroskopom (10,9 %). Nasuprot tome, sudionici istraživanja iz 2024. godine u većem su postotku izjavili da im zadatak nije bio težak jer su prije mikroskopiranja prisustvovali predavanju (18,5 %).

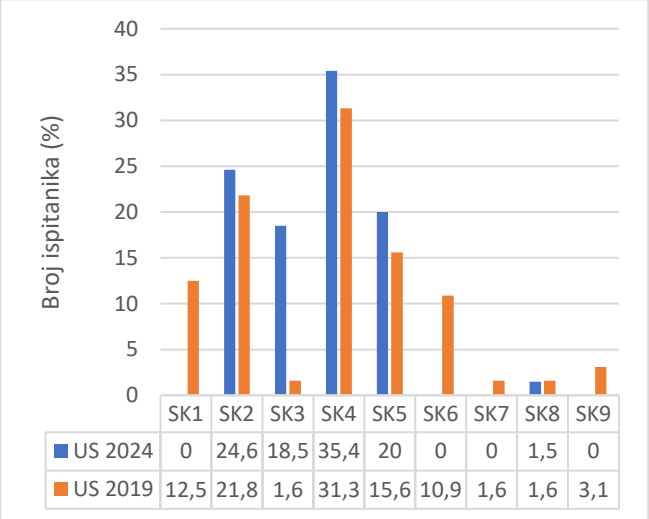
Opis specifičnog koda odgovora ispitanika	**Brojčani kod**
Zato što je sve poznato od prije (iz srednje škole / drugo).	SK1
Nema odgovora i/ili navedeno je samo da jest/nije bilo teško pratiti.	SK2
Zbog toga što su prethodno odslušali predavanje i/ili pisali kolokvij.	SK3
„Zato što je bilo zanimljivo i/ili poučno“ / „zato što volim takve vježbe“.	SK4
„Zato što je sve bilo dobro objašnjeno / organizirano / profesorica je zanimljiva“.	SK5

[12] MATIĆ, 2019.

DOI: 10.55072/DN.2026.1.133

„Zato što je teško mikroskopom pronaći papučicu / mikroskop nije radio / nemam iskustva s mikroskopiranjem“.	SK6
„Zbog nedostatka znanja“.	SK7
Zbog toga što su sami promatrali detalje / sami su mikroskopirali.	SK8
Zato što nisu znali na što obratiti pažnju / koje strukture promatrati (zbog nedostatka informacija).	SK9

Tablica 2. Opis specifičnih kodova na pitanje 5 u anketi provedenoj sa sudionicima istraživanja provedenog 2019. i 2024. godine



Graf 13. Usporedba rezultata analize specifičnog kodiranja odgovora na pitanje 5 u anketi između sudionika istraživanja provedenih 2019. (US 2019) te 2024. godine (US 2024)

Zaključak

U ovom su istraživačkom radu analizirani i uspoređivani rezultati opažanja i bilježenje opažanja kao osnova aktivnog učenja na primjeru mikroskopiranja papučice među studentima prve i druge godine Učiteljskog fakulteta te studenata prve godine Ranog i predškolskog odgoja i obrazovanja tijekom 2024. godine. Dobiveni rezultati usporedili su se s primarnim istraživanjem koje je provedeno 2019. godine u suradnji s Prirodoslovno-matematičkim fakultetom Sveučilišta u Zagrebu, Biološki odsjek. Na temelju provedenog istraživanja, može se zaključiti: Statističkom analizom koja je temeljena na odgovorima triju skupina ispitanika (studenata prve i druge godine Učiteljskog studija te studenata prve godine Ranog i predškolskog odgoja i obrazovanja) utvrđeno je da ne postoji statistički značajna razlika među odgovorima sudionika te da su u najvećem postotku davali netočne odgovore. Time su pokazali konceptualno nerazumijevanje promatranog sadržaja.

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U neznatno većem postotku studenti druge godine Učiteljskog studija imali su više točnih odgovora, a time i veću razinu konceptualnog i djelomično konceptualnog razumijevanja, što je u skladu s očekivanjima. Može se pretpostaviti da je razlog tomu što su stariji i imaju više stečenog znanja i iskustva od drugih ispitanika.

Također su u najvećem postotku promatrani sadržaj prikazivali jednostavno, kružićima, točkicama i nitima, no niti jedan od ispitanika nije na crtežu označio strukturnu građu organizma.

Analizom crteža sudionika istraživanja utvrđeno je da su sve tri skupine u najvećem postotku predmet promatranja prikazale jednostavno (kružićima, točkama i linijama) te niti jedan ispitanik navedenih skupina nije na crtežu označio strukturnu građu promatranog organizma.

Usporedbom dobivenih rezultata s rezultatima primarnog istraživanja utvrđeno je da postoji statistički značajna razlika u djelomično konceptualnom i konceptualnom razumijevanju. U znatno većem postotku ispitanici primarnog istraživanja imaju više izraženo djelomično konceptualno razumijevanje, dok ispitanici istraživanja provedenog 2024. godine imaju veći postotak u konceptualnom nerazumijevanju sadržaja, što je u skladu s prvotnim pretpostavkama. Na samoj je granici statistički značajne razlike i konceptualno razumijevanje sadržaja koje u većem postotku imaju ispitanici primarnog istraživanja.

Literatura

Agencija za znanost i visoko obrazovanje [AZVO]: *Studenti i pandemija: Kako smo (pre)živjeli?* 2021. https://www.azvo.hr/images/stories/novosti/Rezultati_istra%C5%BEivanja_Studenti_i_pandemija__Kako_smo_pre%C5%BEivjeli_lektorirano.pdf

Berry, W.: *Surviving lecture: A pedagogical alternative*. College Teaching, 2008/3. 149–154. DOI: 10.3200/CTCH.56.3.149-153

DE ZAN, I. : *Metodika prirode i društva*. Školska knjiga, Zagreb, 2005.

GARCIA-MILA, M.–ANDERSEN C.: *Developmental change in notetaking during scientific inquiry*. International Journal of Science Education, 2007/29. 1035–1058.

HAUSMANN, K.–HÜLSMANN, N.: *Protozoology from the perspective of science theory: History and concept of a biological discipline*. Thieme Medical Publishers, 2021/1. (33.) 461–488.

MATIĆ, A. M.: *Promatranje i bilježenje kao osnova učenja u biologiji*. Diplomski rad, 2019. https://urn.nsk.hr/urn:nbn:hr:217:346389

MORTON, A.: *Lecturing to large group: A Handbook for Teaching and Learning in Higher Education*. In: H. Fry–S. Ketteridge–S. Marshall (Eds.): *Enhancing Academic Practice*. Routledge, New York, 2009. 213–449.

PRINCE, M.: *Does active learning work? A review of the research*. Journal of Engineering Education, 2004/3. (93.) 223–231. DOI: 10.1002/j.2168-9830.2004.tb00809.x

RADANOVIĆ, Ines–GARAŠIĆ, Diana–LUKŠA, Žaklin–RISTIĆ-DEDIĆ, Zrinka–PERIĆ, M.–JOKIĆ, B.: *Understanding of photosynthesis concepts related to students' age*. Learning science, Conceptual understanding, 2016. 271–277.

DOI: 10.55072/DN.2026.1.133

SERTIĆ PERIĆ M.–MATIĆ, A. M.–KIŠ-NOVAK, D.–VIGNJEVIĆ, G.–LABAK, I.: *Primjena aktivnog učenja temeljenog na aktivnostima promatranja i bilježenja opažanja na primjeru mikroskopiranja papučice, Paramecium* sp. Educatio biologiae, 2019/5. 34–46. DOI: 10.32633/eb.5.3
VERNI, F.–GUALTIERI, P.: *Feeding behaviour in ciliated protozoa*. European Journal of Protistology, 1997/2. (33.) 122–133.

Abstract

OBSERVATION AND RECORDING OBSERVATIONS AS A BASIS FOR ACTIVE LEARNING IN NATURAL SCIENCES: A CASE STUDY OF MICROSCOPIC EXAMINATION OF *PARAMECIUM SP.*

Active learning encourages students to independently explore, analyze, connect, and discover content. Through problem-solving, students develop a conceptual understanding of the material by applying it to real-life situations, thereby avoiding the passive absorption of pre-given facts and conclusions. One of the prominent methods of active learning in the natural sciences is observation, which requires skills in detailed observation and precise recording of those observations. Observation allows for the collection of information about the observed object, aiding in the formation of conclusions. The skill of recording observations ensures the documentation of data, reducing the possibility of missing important information and allowing for subsequent analysis and interpretation. The effectiveness of active learning often depends on student motivation and the context of the problem presented to them. This paper presents a method of active learning based on observing and recording observations through the microscopic examination of Paramecium sp. specimens. The research was conducted among first- and second-year students of the Teacher Education program and first-year students of Early Childhood Education. Participants were asked to carefully observe two different specimens containing the microorganism Paramecium over two school hours and to record and illustrate their Observations in structured worksheets. The obtained responses were analyzed for accuracy, level of understanding, and drawings, which were specifically coded. The results showed that almost none of the participants provided detailed descriptions of their observations or identified the structure of the observed object, indicating a superficial understanding of the content and poorly developed observational skills. Compared to research from 2019, in collaboration with the Faculty of Science, University of Zagreb, Department of Biology, it was found that participants from the earlier study demonstrated a deeper understanding of the content, while participants in the recent study showed better skills in recording observations. It is assumed that the reason for these results is that students from the 2019 study had more face-to-face and practical classes, which allowed them to develop better observational skills based on everyday practice.

Keywords: teaching methods, inquiry-based learning, conceptual understanding, Paramecium sp.

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MEGFIGYELÉS ÉS A MEGFIGYELÉSEK RÖGZÍTÉSE MINT AZ AKTÍV TANULÁS ALAPJA A TERMÉSZETTUDOMÁNYOKBAN: ESETTANULMÁNY A *PARAMECIUM SP.* MIKROSZKÓPOS VIZSGÁLATÁRÓL

Az aktív tanulás arra ösztönzi a tanulókat, hogy önállóan fedezzék fel, elemezzék, összekapcsolják és megismerjék a tananyagot. A problémamegoldás révén a tananyag fogalmi megértése a valós élethelyzetekben való alkalmazáson keresztül alakul ki, elkerülve ezzel az előre megadott tények és következtetések passzív elsajátítását. A természettudományokban az aktív tanulás egyik kiemelkedő módszere a megfigyelés, amely részletes észlelési képességeket és a megfigyelések pontos rögzítését igényli. A megfigyelés lehetővé teszi a megfigyelt tárgyról szóló információk befogadását, ami segít a következtetések levonásában. A megfigyelések rögzítésének készsége biztosítja az adatok dokumentálását, csökkentve a fontos információk elmulasztásának lehetőségét, és lehetővé téve a későbbi elemzést és értelmezést. Az aktív tanulás hatékonysága gyakran függ a hallgató motivációjától és a számára felvetett probléma kontextusától. Ez a tanulmány egy aktív tanulási módszert mutat be, amely a Paramecium sp. nevű parameciumpreparátum mikroszkópos vizsgálatán keresztül történő megfigyelésen és a megfigyelések rögzítésén alapul. A kutatást a tanárképző program első és második évfolyamos hallgatói, valamint a korai és óvodai nevelés szak első évfolyamos hallgatói körében végezték. A résztvevőket arra kérték, hogy két tanórai foglalkozás során figyeljék meg a *Paramecium* nevű mikroorganizmus két különböző preparátumát, és rögzítsék, illetve illusztrálják megfigyeléseiket strukturált munkalapokon. A kapott válaszokat pontossági és megértési szintjük, valamint a rajzok alapján elemeztük. Az eredmények azt mutatták, hogy szinte egyik résztvevő sem írta le részletesen megfigyeléseit, és nem jelölte meg a megfigyelt tárgy felépítését, ami a tartalom felületes megértésére és a gyengén fejlett megfigyelési képességekre utal. A 2019-es tanulmányhoz képest A Zágrábi Egyetem Természettudományi Karának Biológiai Tanszékével együttműködésben végzett 2019-es tanulmányhoz viszonyítva megállapítást nyert, hogy a 2019-es tanulmány résztvevői mélyebb tartalmi megértést mutattak, míg az új tanulmány résztvevői jobb megfigyelési készségeket mutattak. Feltételezhető, hogy a 2019-es hallgatók több gyakorlati oktatásban részesültek, ami lehetővé tette számukra, hogy a mindennapi gyakorlat alapján fejlettebb megfigyelési készségeket sajátítsanak el.

Kulcsszavak: tanítási módszerek, kutatásalapú oktatás, fogalmi megértés, Paramecium sp.

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Győrfi Tamás–Patocskai Mária

MESTERSÉGES INTELLIGENCIA A FELSŐOKTATÁSBAN: LEHETŐSÉGEK ÉS KIHÍVÁSOK

1. Bevezetés

A nagy nyelvi modellek 2022-től való megjelenése alapjaiban formálja át az oktatás, ezen belül is a felsőoktatás tanítási, tanulási, valamint kutatási folyamatait. Tanulmányunkban a generatív mesterséges intelligencia felsőoktatásban betöltött szerepét vizsgáljuk, helyi, intézményi trendek feltárásán keresztül. Célunk az Eötvös József Főiskolán az oktatói és hallgatói mesterséges intelligencia használati szokások, ismeretek, attitűdök feltérképezése volt, amelyet kérdőíves felmérés segítségével végeztünk el. A kapott eredményeket országos, reprezentatív kutatások adataival is összehasonlítottuk.

A mesterséges intelligencia oktatási integrációjában a pedagógusok felkészültsége és módszertani ismeretei kulcsszerepet játszanak. Ez különösen igaz a pedagógusképző intézményekre, amelyeknek nemcsak a technológia használatára, hanem annak tudatos, értékalapú és a tanulást érdemben támogató alkalmazására is fel kell készíteniük a jövő pedagógusait.

A tanulmány további fejezeteiben röviden áttekintjük a generatív mesterséges intelligencia és a nagy nyelvi modellek fejlődésének főbb állomásait, majd a szabályozási és irányelvi környezetet mutatjuk be. Ezt követi a kutatás módszertanának ismertetése, az eredmények bemutatása és elemzése, végül pedig az összegzés.

2. A generatív mesterséges intelligencia és a nagy nyelvi modellek

Napjainkban a mesterséges intelligencia (*Artificial Intelligence, AI*) kifejezés használata a legtöbb eseteben a generatív mesterséges intelligenciára (*Generative Artificial Intelligence, GenAI*) utal, amely képes a tanítási folyamat során elsajátított mintázatok alapján új, eredeti tartalmakat (szöveget, képet, kódot vagy audiovizuális anyagokat) létrehozni.

A nagy nyelvi modellek (*Large Language Models, LLMs*) a generatív mesterséges intelligencia egyik legfontosabb megjelenési formája. Az LLM-ek technológiai alapját a *transzformer architektúrák* jelentik.[1] Ezek többrétegű, mély neurális hálózatok, amelyek a gépi tanulás (különösen a mélytanulás) révén válnak képessé komplex nyelvi összefüggések felismerésére. A LLM-ek működési mechanizmusa statisztikai valószínűségeken alapul, amelynek fő lépései:

[1] VASWANI, A. et al.: *Attention Is All You Need*. In: *Advances in Neural Information Processing Systems 30*, NeurIPS, Long Beach, CA, USA. 2017. 5998–6008.

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1. *Tokenizáció*: bemeneti szöveg kisebb egységekre (tokenekre) bontása, amelyek lehetnek szavak, szórészletek, karakterek vagy írásjelek.
2. *Kontextusfeldolgozás*: a modell önfigyelem (*self-attention*) mechanizmusa révén megvizsgálja, hogy a szövegben lévő összes rész hogyan kapcsolódik egymáshoz.
3. *Predikció*: a modell a kontextus alapján meghatározza a következő token valószínűségi eloszlását, majd kiválasztja a legvalószínűbb (vagy mintavételezett) elemet. A folyamat iteratív módon ismétlődik a kívánt kimenet előállításáig.

Az LLM-ek alapvető működése azonban korlátozott, kizárólag csak a tanításuk során látott adatok alapján generálnak tartalmat és rendelkeznek egy bizonyos utolsó tanítási dátummal (*cut-off date*). Emiatt gyakran előfordul a *hallucináció* jelensége, ami nem hiba, hanem a működés (a valószínűségi jóslás) természetes velejárója.

A hallucinációs korlátokat jelentős mértékben enyhíti a mélykutatás (*deep research*) és a valós idejű információkeresés. Ez utóbbi legfontosabb módszere az adatlekérésre alapozott generálás (*Retrieval-Augmented Generation, RAG*),[2] amely külső adatbázisokból, tudományos cikkekből, tankönyvekből keres releváns információt és ezt építi be a generált válaszba. Így a modell nem csak a saját memóriájára támaszkodik, hanem aktuális, hiteles forrásokra is hivatkozik,-ami különösen fontos az oktatásban (pl. szakirodalomi keresés, hallgatói kérdések pontos megválaszolása vagy kutatási összefoglalók készítése során).

A nagy nyelvi modellek által generált tartalom nagymértékben függ a bemeneti utasítás (*prompt*) minőségétől. Az utasítástervezés (*prompt engineering*) a gondosan megfogalmazott bemeneti utasítások tervezésének és optimalizálásának tudománya. Célja, hogy az LLM-ből a legjobb választ hozzuk ki. A gyenge promptolás növeli a hallucináció kockázatát és hozzájárulhat a felületes vagy téves tartalmak előállításához. Ezért a prompt engineering az egyik legfontosabb gyakorlati készség (kulcskompetencia), amelyet el kell sajátítani a hatékony és felelős AI használathoz.

A generatív mesterséges intelligencia széles körű nyilvános figyelmet 2022. november 30-án kapott, a *ChatGPT*[3] (*GPT-3.5*) megjelenésével. A modell két hónap alatt több mint százmillió felhasználót ért el, ezzel a leggyorsabban növekvő fogyasztói alkalmazásává vált. Ez a robbanásszerű siker indította el a 2023-as AI-boomot, amely során a generatív eszközök hirtelen a mindennapi élet, a munka és az oktatás részévé váltak.

2024-re a fejlődés új szakaszába lépett a multimodális modellek megjelenésével. Ezek a rendszerek (mint például a *ChatGPT-4o*, a *Google Gemini 1.5 Pro*) már nemcsak szöveget, hanem képet, hangot és videót is képesek feldolgozni és generálni.

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[2] LEWIS, P. et al.: *Retrieval-Augmented Generation for Knowledge-Intensive NLP Tasks*. (NeurIPS 2020), Vancouver, Canada, 2020. 9459–9474.

[3] ChatGPT (*Chat Generative Pre-trained Transformer*): az OpenAI által fejlesztett, nagy nyelvi modellre épülő, transzformer-alapú rendszer, amely természetes nyelvű párbeszédre és szöveggenerálásra képes. (OpenAI, 2022)

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A 2025–2026-os időszakban ezek a képességek tovább bővültek az ügynök-alapú rendszerekkel (*agentic workflow*), amelyek képesek eszközöket hívni, több lépésben keresni, ellenőrizni és szintetizálni az információt.

Ezen a technológiák mára már nem különleges újdonságok, hanem az irodai szoftverek szerves és alapértelmezett részévé váltak, mint például a *Microsoft Copilot* vagy a *Google Workspace* eszközei.

Ezzel párhuzamosan a nagy nyelvi modellek száma jelentősen megnőtt. Léteznek *nagyvállalati zárt modellek* (pl. *GPT-5* sorozat, *Claude 4.x*, *Gemini 2.x*, *Grok-3*) és egyre erősebb *nyílt forráskódú* alternatívák (pl. *Meta Llama* 4, *Mistral*, *DeepSeek*). Ez a sokféleség egyrészt versenyt és gyors innovációt eredményez, másrészt lehetővé teszi, hogy a felhasználók az igényeiknek megfelelően választhassanak, legyen szó költséghatékonyságról, adatvédelemről, vagy speciális célokra optimalizált modellekről.

A legmeghatározóbb nagy nyelvi modelleket az *1. táblázat*ban foglaltuk össze.

Modell	**Fejlesztő**	**Erősség / Specializáció**	**Oktatási felhasználás**
GPT5.x	OpenAI	Multimodalitás; legsokoldalúbb; kreatív szövegírás; komplex érvelés	Személyre szabott tanulástámogatás; tananyagkészítés és elemzés; feladatmegoldás; beépített irodai asszisztens Microsoft 365 környezetben (Copilot)
Claude 4.x	Anthropic	Hosszú kontextuskezelés; strukturált szövegelemzés; értékalapú, etikus kimenet (Constitutional AI)	Hosszú dokumentumok feldolgozása; tudományos szövegek kritikai elemzése
Gemini 2.5 Pro	Google DeepMind	Legjobb multimodális képességek; Google-integráció (Google Workspace); valós idejű keresés; mélygondolkodási folyamatok (*deep reasoning*); nagy kontextusablak	Nagy mennyiségű oktatási anyag feldolgozása; multimédiás tartalmak (képek, diagramok, YouTube videók) elemzése; kutatási adatbázisok szintetizálása
Llama 4	Meta AI	Nyílt forráskódú; helyi futtathatóság; adatvédelem	Intézményi LMS integráció; adatvédelmi szempontból biztonságos intézményi telepítés

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DeepSeek R1 / V3	DeepSeek	Nyílt forráskódú; erős matematikai és kódolási teljesítmény; logikai érvelés	Matematika és természettudomány oktatása; STEM feladatok; statisztikai elemzés; programozás oktatása
Grok 3	xAI	Valós idejű X (Twitter) adathozzáférés; közvetlen, gyors válaszok; erős matematikai és tudományos érvelés	Aktuális, tudományos és társadalmi témák elemzése
Mistral Large 2	Mistral AI	Nyílt forráskódú; költséghatékony; alacsony infrastruktúra-igényű; Európai adatvédelmi szemlélet (GDPR)	GDPR-kompatibilis intézményi oktatási platform

1. táblázat: Nagy nyelvi modellek és főbb jellemzőik (2026)

Fontos hangsúlyozni, hogy nem létezik egyetlen, minden feladatra optimális nagy nyelvi modell. A pedagógiai tudatosság része, hogy az adott feladathoz a legmegfelelőbb modellt válasszuk.

3. Mesterséges intelligencia szabályozások, irányelvek

Elsőként az UNESCO[4] fogalmazott meg ajánlásokat, globális irányelvet a mesterséges intelligencia oktatásban történő felelős és hatékony használatára. Az *AI and Education: Guidance for Policy-Makers* (2021) című dokumentum[5] hangsúlyozza, hogy az AI csak akkor járul hozzá a tanulás minőségéhez, ha támogatja az oktatási folyamatokat és nem helyettesíti az emberi szereplőket. Emellett kiemelt az AI-műveltség (AI literacy[6]) fejlesztésének fontosságát.

Az Európai Bizottság (*European Commission)* jogi és etikai kereteket is kialakított a mesterséges intelligencia alkalmazására. Az *Ethical Guidelines on the Use of Artificial Intelligence and Data in Teaching and Learning* (2022)[7], valamint a *Regulation (EU) 2024/1689* (AI Act[8]) meghatározza az AI oktatási felhasználásának alapelveit. Ezek közé tartozik az átláthatóság, az adatvédelem, az

[4] UNESCO (*United Nations Educational, Scientific and Cultural Organization*) az ENSZ oktatással, tudománnyal és kultúrával foglalkozó szakosított szervezete.
[5] UNESCO (2021/frissítve 2024) AI and Education: Guidance for Policy-Makers – globális irányelv az AI oktatásban és felsőoktatásban való felelős alkalmazásáról.
[6] AI Literacy: azon kompetenciák együttese, amely lehetővé teszi az egyének számára, hogy kritikusan értékeljék az AI-rendszereket, tudatosan használják őket és tájékozottan, etikus keretek között együttműködjenek velük különféle környezetekben (EU AI Act).
[7] Etikai iránymutatások oktatók számára a mesterséges intelligencia és az adatok tanítási és tanulási célú etikus felhasználásáról. Európai Bizottság, 2022.
[8] Regulation (EU) 2024/1689 – „AI Act" – az EU első átfogó AI-rendelete; (hatályos 2024. augusztus 1-től.)

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emberi felügyelet biztosítása, valamint a kockázatalapú megközelítés alkalmazása. Az oktatási környezetben az AI alkalmazásának fő elvek:

- Biztonság és átláthatóság – az alkalmazott rendszerek működése legyen érthető és ellenőrizhető.
- Emberi felügyelet – az AI nem helyettesítheti az oktatói döntéshozatalt.
- Etikai megfelelés – az AI használata összhangban kell legyen az alapvető jogokkal és a méltányosság elvével.
- Kompetenciafejlesztés – szükséges az oktatók és hallgatók AI-műveltségének fejlesztése.
- Kutatási integritás – az AI használata a tudományos munkában legyen átlátható és megfelelően dokumentált.

Magyarországon a felsőoktatási AI szabályozás, az EU AI Act rendeletének hazai végrehajtása megjelenik a 2025. évi LXXV. törvényben, valamint a 1405/2025. (XI. 4.) Korm. határozatban. Ez előírja, hogy a felsőoktatási intézményeknek 2025. szeptember 1-ig felülvizsgálják intézményi szabályzataikat és meghatározzák a mesterséges intelligencia alkalmazásának kereteit.

4. Kutatás célja

Felmérésünkben az Eötvös József Főiskola hallgatóinak és oktatóinak a mesterséges intelligencia használati szokásait vizsgáltuk az alábbi területeken: (1) az AI-val kapcsolatos ismeretek szintje és a használattal kapcsolatos attitűdök, motivációk; (2) az AI-használat jellemző területei az oktatási, kutatási és a tanulási folyamatok támogatásában; (3) alkalmazott AI eszközök típusai; (4) a hatékony AI-használatot támogató tényezők.

A kapott eredményeket összehasonlítottuk országos, reprezentatív felmérés adataival is (T. Nagy és mts, 2025).[9]

4.1. Anyag és módszer

A felmérés egy demográfiai részből (nem, életkor, szak) és egy 10 kérdést tartalmazó blokkból állt. A vizsgálatban az EJF BA szakos hallgatói (N=94) vettek részt (*2. táblázat*), mindannyian a pedagógus képzési területről, valamint a Pedagógusképző Intézet oktatói (N=15, 68%).

Változó	**EJF**	
	Gyakoriság (n)	**%**
Nemek:		
Férfi	5	*5%*
Nő	89	*95%*

[9] T. NAGY Judit–RAJKI Zoltán–DRINGÓ-Horváth Ida: *Mesterséges intelligencia a felsőoktatásban – oktatói hozzáférés, attitűd és felhasználási gyakorlat*. Iskolakultúra, 2025/7. (35.) 3–20.

DOI: 10.55072/DN.2026.1.151

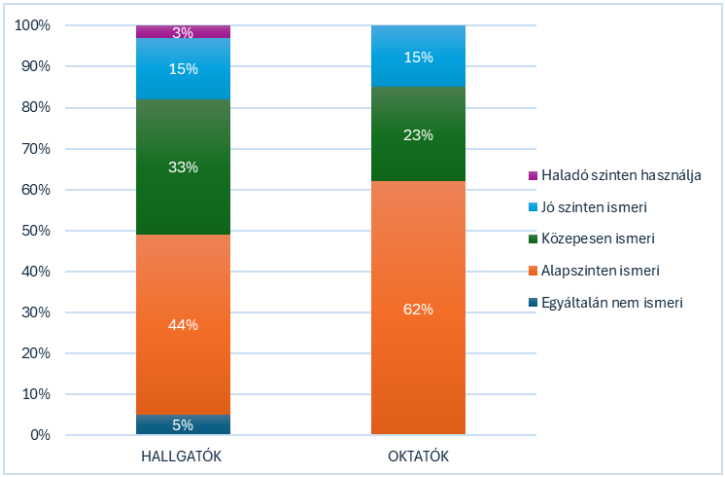
Életkor:		
18 - 25	34	*36%*
>25	60	*64%*
Képzés típusa:		
Tanító	35	*37%*
Óvodapedagógus	54	*57%*
Csecsemő és kisgyermeknevelő	5	*5%*

2. táblázat: A válaszadók demográfiai adatai

A felmérésre a 2025/26-as tanév első félévében, október-novemberben került sor. Az adatgyűjtést MS Forms segítségével végeztük el, statisztikai elemzés a MS Excel programban történt.

5. Eredmények

Először a mesterséges intelligenciával kapcsolatos ismeretek szintjét vizsgáltuk önértékelés alapján (*1. ábra*). A válaszok alapján sem az oktatók, sem a hallgatók nem tekintik magukat magas szintű AI-felhasználónak. A többség (oktatók 85%-a, hallgatók 77%-a), mindkét csoportban, alap- vagy középszintű ismeretekről számolt be és csak nagyon kevesen jelölték a haladó szintet.

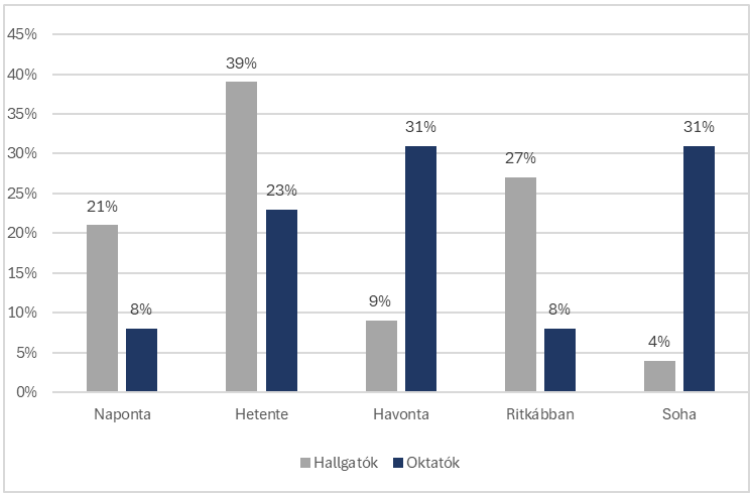


1. ábra: A mesterséges intelligenciával kapcsolatos ismeretek szintje (önértékelés alapján)

A mesterséges intelligencia használati szokásaiban jelentős különbség figyelhető meg a két csoport között (*2. ábra*). A hallgatók körében az AI jobban beépült mindennapokba, 60%-uk napi vagy heti rendszerességgel használja, míg az oktatói

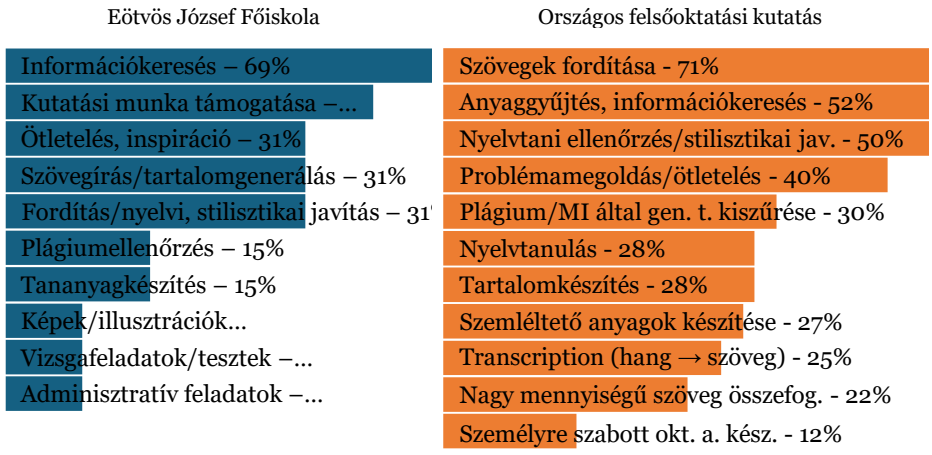
DOI: 10.55072/DN.2026.1.151

gyakorlatban (31%) ez nem annyira elterjedt. Az is megfigyelhető, hogy az oktatók 31%-a egyáltalán nem használja, míg a hallgatóknál ez csak 4%. Tehát ők jóval aktívabb AI felhasználók.



2. ábra: Mesterséges intelligencia használati szokások a tanulásban és az oktatói munka során

A mesterséges intelligencia felhasználási területeit vizsgálva, az EJF oktatói főként: információkeresésre (69%), kutatási munka támogatására (38%), ötletelésre (31%) és szövegalkotásra (31%) használják. Az eredményeinket összehasonlítottuk egy országos, reprezentatív kutatás[10] adataival (*3. ábra*).



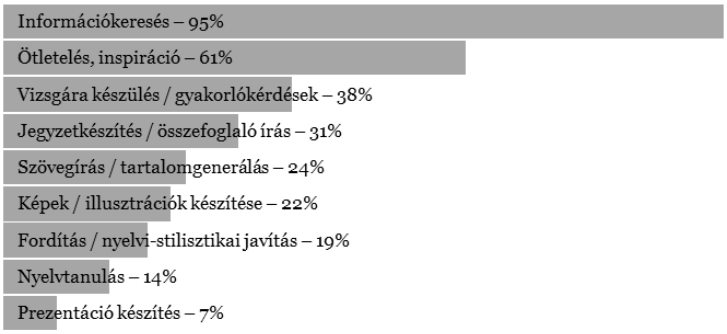
3. ábra: A mesterséges intelligencia felhasználási területei – oktatók körében

[10] Uo.

DOI: 10.55072/DN.2026.1.151

Mindkét felmérésben (3. ábra) a leggyakoribb AI felhasználási területek hasonlóak (1-5 hely): fordítás, információgyűjtés, nyelvi ellenőrzés, problémamegoldás és tartalomkészítés. A komplexebb alkalmazási lehetőségek (tananyagok, vizuális szemléltető anyagok készítése) ritkábban fordulnak elő. Ez jelentheti azt, hogy a mesterséges intelligenciát jelenleg inkább technikai segédeszközként használják az oktatók.

Az EJF hallgatói az AI-t főként az információkeresésre és ötletelésre használják (*4. ábra*), de jelentős arányban megjelennek a komplexebb és kreatív alkalmazási területek is, például vizsgafelkészülés/gyakorlókérdések (38%), jegyzetkészítés (31%) vagy képek/illusztrációk készítése (22%). Ebből arra következtethetünk, hogy míg az oktatók többsége inkább technikai támogatásra használja a mesterséges intelligenciát, addig a hallgatók jelentős része már kreatív tartalomelőállításra és a tanulás aktív támogatására is alkalmazza.



4. ábra: A mesterséges intelligencia felhasználási területei – EJF hallgatói körében

Oktatók és hallgatók által használt mesterséges intelligencia alapú tartalom-generáló rendszereket vizsgálva azt kaptuk, hogy ez mindkét csoportban erősen centralizált és döntően egy jól ismert platformra a *ChatGPT*-re épül. A hallgatók (82%) és az oktatók (69%) egyaránt ezt használják elsődleges AI-eszközként, míg más modellek, például a *Claude, Gemini, Copilot* lényegesen kisebb arányban jelennek meg (*3. táblázat*).

A kevésbé közismert modellek (*DeepSeek*, *Grok*, *Mistral*) gyakorlatilag nem jelennek meg a mintában.

A forrásalapú rendszerek, például a *Perplexity AI* használata minimális, noha épp ezek segíthetnék az információk hitelességének ellenőrzését.

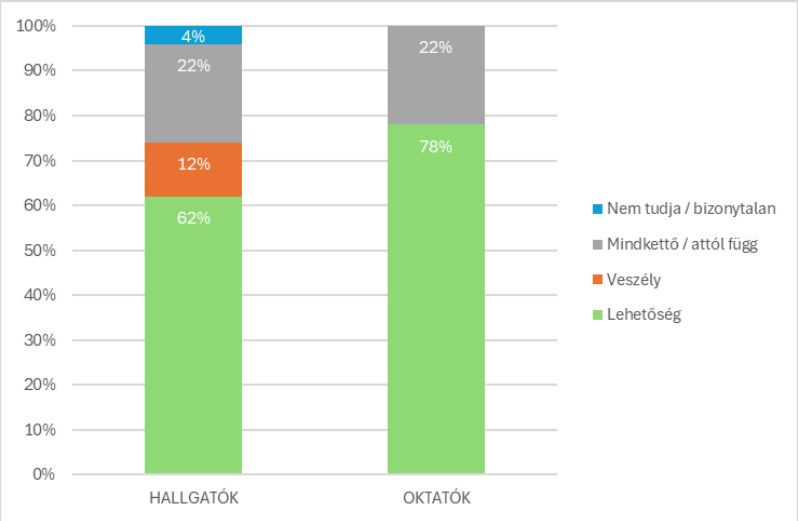
AI-eszköz	Oktatók (%)	Hallgatók (%)
ChatGPT	69%	82%
Gemini	23%	28%
Copilot	8%	21%
Meta AI	8%	15%

DOI: 10.55072/DN.2026.1.151

Perplexity	–	3%
DeepSeek	–	–
Claude	–	–
Grok (X/Twitter)	–	–
Más	–	1%

3. táblázat: Oktatók és hallgatók által használt AI-alapú tartalom-generáló rendszerek

A felmérés következő szakaszában AI-használat megítélését vizsgáltuk. Arra a kérdésre, hogy *Ön a mesterséges intelligenciát inkább lehetőségnek vagy inkább veszélynek látja az oktatásban?* az *5. ábrán* látható eredményeket kaptuk. Az oktatók (78%) és a hallgatók (62%) többsége lehetőségként tekint az AI-ra, ugyanakkor jelentős az a réteg is, amely egyszerre érzékeli benne az előnyöket és a kockázatokat is.



5. ábra: A mesterséges intelligencia használat megítélése használat megítélése

A mesterséges intelligencia használat hátrányai az oktatásban kérdésre kapott (oktatói és hallgatói) válaszokban 9 problémakör (H1-H9) volt beazonosítható (*4. táblázat*). Az oktatói és hallgatói válaszok meglepően nagy átfedést mutatnak, elsődleges problémaként az önálló gondolkodás csökkenését említik, ezt követi a kreativitás visszaszorulása, az AI által adott pontatlan információk (hallucinációk) és a plágium veszélye.

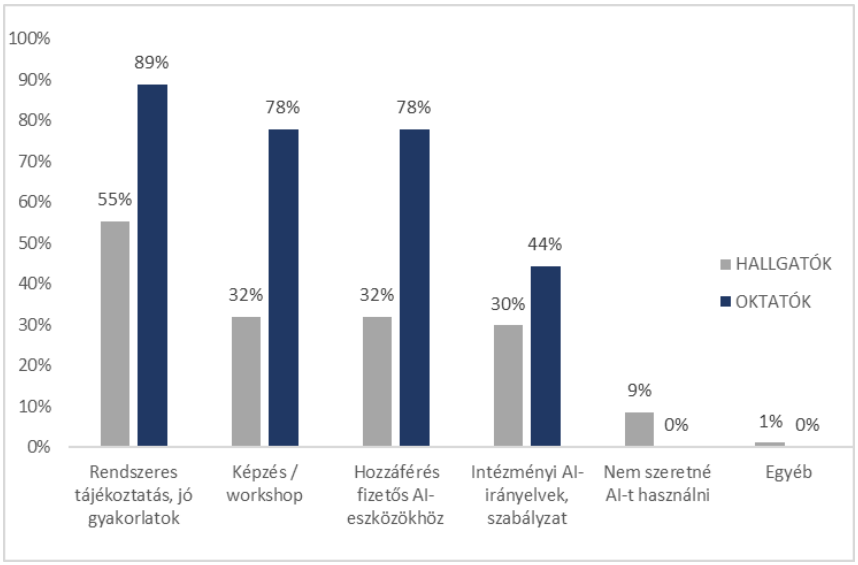
Minden oktató megfogalmazott valamilyen hátrányt és néhányan a hosszú távú következményeket is bizonytalannak látják, míg a hallgatók mindössze 3%-a jelezte, hogy nem tapasztal negatívumot az AI-használatban.

DOI: 10.55072/DN.2026.1.151

Kategória	Hallgatói válaszok	Oktatói válaszok
H1 – Önálló gondolkodás, erőfeszítés csökkenése	~72%	✓
H2 – Kreativitás, eredetiség hiánya	~48%	✓
H3 – Téves vagy megbízhatatlan AI-információk	~41%	✓
H4 – Felületes tudás/megértés hiánya	~36%	✓
H5 – Plágium, csalás, teljesítmény hitelessége	~32%	✓
H6 – Etikai tudatosság hiánya, jogi kérdések	~15%	✓
H7 – Személyesség, tanár–diák kapcsolat csökkenése	~6%	–
H8 – Hosszú távú pedagógiai hatások bizonytalansága	–	✓
H9 – Nincs ilyen	~3%	–

4. táblázat: A mesterséges intelligencia használat hátrányai az oktatásban, oktatói és hallgatói vélemények szerint

A hatékonyabb mesterséges intelligencia használat elősegítésében (*6. ábra*), nem az elutasítás jelenti a fő akadályt, hanem támogatásra, tudásmegosztásra, gyakorlatokara van szükség. Az oktatók és hallgatók egyaránt hasonló támogatási formákat tartanak szükségesnek. A különbség elsősorban az arányokban van. A válaszokból egyértelműen kirajzolódik az igény az AI-tudatosság fejlesztésére és az etikus használat tanítására.



6. ábra: Hatékonyabb AI használat elősegítése

DOI: 10.55072/DN.2026.1.151

Eredményeinket az országos, reprezentatív kutatás[11] adataival összehasonlítva az oktatók ugyanazokat a támogatási formákat tartják a legfontosabbnak: az országos mintában az AI-képzések aránya 64%, a fizetős eszközökhöz való hozzáférésé 53% és a tájékoztatásé 52%.

6. Összefoglalás

A kutatás az Eötvös József Főiskolán végzett kérdőíves felmérés alapján vizsgálta a generatív mesterséges intelligencia felsőoktatási használatát, az oktatói és hallgatói szokások, ismeretek és attitűdök feltérképezésén keresztül.

Az eredmények alapján sem az oktatók, sem a hallgatók nem tekintik magukat magas szintű AI-felhasználónak. Az oktatók a mesterséges intelligenciát elsősorban technikai támogatásra alkalmazzák (információkeresés, nyelvi ellenőrzés, szövegalkotás), míg a hallgatók körében már komplexebb és kreatívabb alkalmazások is megjelennek, mint a vizsgafelkészülés, a jegyzetkészítés vagy a képgenerálás.

Az eszközhasználat mindkét csoportban erősen centralizált, döntően a ChatGPT-re épül. Az azonosított kockázatok hasonlóak: elsősorban az önálló gondolkodás csökkenése, a kreativitás visszaszorulása, a hallucinációk, valamint a plágium és a túlzott függőség veszélye.

A hatékonyabb AI-alkalmazás elősegítésében nem az elutasítás jelenti a fő akadályt, az oktatók és hallgatók egyaránt, hasonló támogatási formákat tartanak szükségesnek: képzéseket, megbízható eszközöket, gyakorlati példákat és az etikus használatra vonatkozó iránymutatást.

A technológiai fejlődés gyors üteme gyakran meghaladja az oktatási rendszerek alkalmazkodóképességét, ami állandó készségfejlesztést és szakmai fejlődést tesz szükségessé.

Az intézményi fejlesztések szempontjából kiemelt jelentőségű az oktatók AI-kompetenciafejlesztése, az intézményi szintű irányelvek kidolgozása, valamint az AI-használat módszertani beágyazása a képzésekbe.

A mesterséges intelligencia jelen van a felsőoktatás mindennapjaiban, de az igazi kihívás nem a technológia elsajátítása, hanem annak a tudatos, értékalapú és pedagógiai célú alkalmazása.

[11] T. NAGY Judit–RAJKI Zoltán–DRINGÓ-Horváth Ida: *Mesterséges intelligencia a felsőoktatásban – oktatói hozzáférés, attitűd és felhasználási gyakorlat*. Iskolakultúra, 2025/7. (35.) 3–20.

DOI: 10.55072/DN.2026.1.151

Irodalom

BELÉNYESI Emese–GYŐRFYNÉ Kukoda Andrea: *A ChatGPT használata a felsőoktatásban: egy döntéshozatali kísérlet tanulságai*. In: Fodorné, Tóth Krisztina (szerk.): *Hatékony és fenntartható tudástranszfer és képességfejlesztés az egyetemeken a digitális transzformáció idején*. „MELLearN - Felsőoktatási Hálózat az Életen át tartó tanulásért" Egyesület, Bp., 2025. 190–204.

BOGNÁR Amália: *A mesterséges intelligencia jelentősége a pedagógusképzésben*. Pedagógusképzés, 2024/1. (22.) 115–123.
DOI: 10.37205/TEL-hun.2024.1.09

Buda András: *A sokszínű mesterséges intelligencia*. Educatio, 2024/1. (33.) 1–12.
DOI: /10.1556/2063.33.2024.1.1

BUDAI László–KERESZTES Éva–BÁNHALMI Árpád–HORVÁTH Annamária: *A generatív mesterséges intelligencia alkalmazása az oktatásban*. In Géring, Zs. (szerk.), Digitalizáció a felsőoktatásban. FHERC tanulmánykötetek I. Budapesti Gazdasági Egyetem, 2024, 35–47.
https://publikaciotar.uni-bge.hu/id/eprint/2315/1/Digitalizacio%20a%20felsooktatasban_FHERC2024.pdf

DABIS Attila: *Generatív oktatás: Mesterséges intelligencia-eszközökkel kapcsolatos attitűdök a Budapesti Corvinus Egyetem oktatói körében*. Új Pedagógiai Szemle, 2024/5–6. 57–84. https://unipub.lib.uni-corvinus.hu/10293/1/_upsz_2024_009.pdf

EU Artificial Intelligence Act: Regulation (EU) 2024/1689 – Az EU mesterséges intelligenciáról szóló rendelete. https://artificialintelligenceact.eu/

GKI Gazdaságkutató Zrt.: *Artificial Intelligence in the Workplace: Who Uses AI*. 2025.
https://gki.hu/language/en/2025/07/30/artificial-intelligence-in-the-workplace-who-uses-ai/

EUROPEAN COMMISSION: *Ethical Guidelines on the Use of Artificial Intelligence and Data in Teaching and Learning*. Európai Bizottság, 2022.
https://education.ec.europa.eu/hu/focus-topics/digital-education/action-plan/ethical-guidelines-for-educators-on-using-ai

LEWIS, P. et al.: *Retrieval-Augmented Generation for Knowledge-Intensive NLP Tasks*. (NeurIPS 2020), Vancouver, Canada, 2020. 9459–9474.
DOI: 10.48550/arXiv.2005.11401

T. NAGY Judit–RAJKI Zoltán–DRINGÓ-Horváth Ida: *Mesterséges intelligencia a felsőoktatásban – oktatói hozzáférés, attitűd és felhasználási gyakorlat*. Iskolakultúra, 2025/7. (35.) 3–20. DOI: 10.14232/iskkult.2025.7.3

UNESCO: *AI competency framework for teachers*. UNESCO, 2024.
https://unesdoc.unesco.org/ark:/48223/pf0000391104

DANUBIUS NOSTER XIV. évf. 2026/1. sz.
DOI: 10.55072/DN.2026.1.151

VASWANI, Ashish–SHAZEER, Noam–PARMAR, Niki–USZKOREIT, Jakob–JONES, Llion–GOMEZ, Aidan N.–KAISER, Łukasz–POLOSUKHIN, Illia: *Attention Is All You Need*. In: *Advances in Neural Information Processing Systems*, NeurIPS, Long Beach, CA, USA. 2017.
DOI: 10.48550/arXiv.1706.03762

Abstract

ARTIFICIAL INTELLIGENCE IN HIGHER EDUCATION: CHALLENGES AND OPPORTUNITIES

The emergence of Large Language Models since 2022 has fundamentally reshaped education, especially teaching, learning, and research processes in higher education. In this study, we examined the role of generative artificial intelligence in higher education by exploring local and institutional trends. Our aim was to map the usage habits, knowledge, and attitudes toward artificial intelligence among academic staff and students at Eötvös József College. Data were collected through a questionnaire survey, and our findings were compared with national research data.

In integrating artificial intelligence into education, teachers' preparedness and methodological knowledge play a key role. This is particularly important for teacher training institutions, which must prepare future educators not only to use the technology, but also to apply it in a conscious, value-driven way that meaningfully supports learning.

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