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ORIGINAL RESEARCH PAPER

CORRECTIVE FEEDBACK IN EFL CLASSROOM INTERACTION: A QUALITATIVE STUDY AMONG THIRD GRADE STUDENTS AT AN INTERNATIONAL HIGH SCHOOL

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ABSTRACT

This study investigates the occurrence and various types of oral feedback within the English as a Foreign Language (EFL) classroom environment among third-grade students at an international high school in Sarajevo.

The research aims to comprehend the nature and frequency of oral feedback provided by teachers to students during classroom interactions. Through qualitative analysis and observations, this study examines the diverse forms of oral feedback utilized by teachers and evaluates their impact on student learning and language acquisition. The methodology involves classroom observations of both teachers and students to gather comprehensive data on the types, patterns, and effectiveness of oral feedback. The findings of this research contribute to a better understanding of oral feedback strategies in EFL classrooms, offering insights into its significance in enhancing students' language proficiency and fostering an interactive learning environment.

Keywords: acquisition, EFL classroom, oral feedback, metalinguistic feedback, elicitation



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1. INTRODUCTION

In the context of language learning, teachers' feedback plays a pivotal role in shaping students' development, comprehension, and overall progress. This significance is particularly pronounced in English as a Foreign Language (EFL) classrooms, where effective communication and language acquisition are fostered through oral feedback. Understanding the nuances and importance of oral feedback is essential for refining teaching methods and optimizing student learning experiences.

This study investigates the occurrence and various types of oral feedback within the EFL classroom environment, specifically focusing on third-grade students at an international school in Sarajevo. The aim is to comprehend the nature and frequency of oral feedback provided by teachers during classroom interactions and its impact on student learning and language acquisition.

The background of this study is rooted in the recognition of a critical gap in knowledge regarding feedback and error correction practices within EFL classrooms, especially within international schools in Sarajevo. Despite the acknowledged importance of feedback, there remains a scarcity of research specifically addressing corrective oral feedback strategies and their effectiveness in facilitating language learning among students in this context.

The research questions guiding this study are aimed at addressing this gap. They include identifying prevalent types of corrective feedback in the EFL classroom, understanding feedback strategies leading to the highest instances of learners' uptake and self-correction, and exploring the impact of teachers' corrective feedback on student uptake—whether students choose to correct themselves or persist without rectification. By examining these aspects, this study aims to offer practical implications for educators, curriculum designers, and language education stakeholders within international schools in Sarajevo. The goal is to optimize the benefits of oral feedback within EFL classrooms, ultimately contributing to the enhancement of language teaching practices and student-centered learning experiences.

2. THEORETICAL BACKGROUND

When individuals embark on learning, whether a language, a skill, or a new concept, errors are inevitable. These errors present learning opportunities, particularly evident in language learning. However, without proper feedback,

learners might remain unaware of their errors impeding their progress. In instances of student errors, teachers play a role in providing direction, enabling students to achieve the correct form (Köpfer, 2022). Additionally, studies such as Masic (2021) have explored attitudes toward learning EFL among Bosnian high school students, shedding light on the cognitive, behavioural, and emotional aspects of attitude and their influence on language learning (Mašić & Bećirović, 2021).

Language acquisition is influenced by factors such as age and context, shaping whether language is approached explicitly or implicitly. In natural settings, young children acquire their native language (L1) through communication with those around them. Their learning is automatic and unconscious, differing from adults learning a second language who rely more on cognition, including explicit language processing. Schmidt's Noticing Hypothesis emphasizes the importance of observing language features, contemplating expressions, and identifying disparities to foster language proficiency (Schmidt, 2010). Masic's study further complements this understanding by revealing significant influences of gender, grade level, GPA, and GPA in EFL on students' attitudes toward learning English (Mašić & Bećirović, 2021).

How can a learner become aware of where he or she is in the learning process can be achieved through corrective feedback. According to Brookhart:

Good feedback gives students information they need so they can understand where they are in their learning and what to do next—the cognitive factor. Once they feel they understand what to do and why, most students develop a feeling that they have control over their own learning—the motivational factor (Brookhart, 2008, pp. 1-2).

This process of feedback is integral, as it involves the information provided by an individual regarding another person's performance which can include a teacher's correction of errors, peer support, parental encouragement, and a student's assessment and corrective response.

Linguistic environment a learner is exposed to and the interaction he or she has with different interlocutors encompasses various forms, each contributing uniquely to the language learning process. Long (Long, The role of the linguistic environment in second language acquisition in W. C. Ritchie, & T. K. Bhatia (Eds.), 1996) and Krashen (Krashen, 1987) both agree that learning

occurs through comprehension, with a focus on understanding leading to increased learning. However, Long departs from the prevalent strong input orientation by emphasizing interaction as a crucial element. He suggests that the most effective comprehensible input is one that has been modified through interaction, meaning it has been adjusted based on signals indicating a need for clarification. This modification occurs through interactional moves initiated by either interlocutor in response to comprehension problems, aiming to enhance mutual understanding, a process known as negotiation for meaning (Ortega, 2009). Masic's study further highlights the significance of gender, grade level, GPA, and GPA in EFL in shaping language learning attitudes, providing valuable insights into the complex interplay of factors influencing language acquisition (Mašić & Bećirović, 2021). Profozic's multisite replication study (2023) further contributes to the understanding of corrective feedback effects by investigating the learning of English regular and irregular past tense among young adolescents in high school and vocational school settings in Italy and Bosnia. The study's findings highlight the importance of tailored feedback approaches based on contextual factors such as prior knowledge and language proficiency levels, emphasizing the need for nuanced feedback strategies to optimize language learning outcomes (Mifka-Profozic, et al., 2023).

Types of Corrective Feedback

As mentioned earlier, feedback for improvement is commonly distinguished as either direct (explicit) or indirect (implicit). In instances of direct guidance, the person offering feedback openly communicates or indicates that an error has occurred, while indirect feedback encourages learners to modify their expressions without overtly specifying the mistake.

Examples of implicit feedback include recasts, which involve rephrasing a learner's erroneous output into a form resembling the target language. Furthermore, recasts involve subtly refining students' incorrect statements without altering their intended meaning or emphasis. For instance, when a student says, "He go to school every day," teacher might echo back, "Yes, he goes to school every day," using a rising tone to indicate the adjustment.

When a learner is actively engaged in communication with an interlocutor in order to have a meaningful and comprehensible conversation there might happen some modifications in their

communication. These can come in a form of clarification requests on either side, and these serve as negotiation for a proper meaning to have the successful output. Negotiation episodes typically start with clarification requests in cases of serious non-understanding (e.g., what do you mean? pardon me?), confirmation checks when there's some uncertainty about understanding the message correctly (e.g., you mean X? X and Y, right?), and comprehension checks if one interlocutor suspects the other may not have grasped the message (e.g., do you know what I mean? should I repeat?). After signalling the need to negotiate, the other interlocutor may confirm understanding, acknowledge non-understanding, ask for assistance, repeat their words verbatim, or attempt to rephrase the message (Ortega, 2009).

Metalinguistic feedback involves remarks, details, or queries concerning the accuracy of the student's expression, yet refrains from directly supplying the correct form. It also includes discussions on language rules, or comments on specific linguistic elements. The primary aim is to enhance the learner's comprehension and awareness of the language explaining errors without explicitly giving the correct answer, employing comments, information, or questions to guide students toward recognizing and correcting their mistakes.

If the teacher prompts the student to provide the correct form by asking questions like, "What's the French equivalent?" or by creating pauses, allowing the student to finish the teacher's sentence (e.g., "This is a...") elicitation is used. Additionally, teachers might ask students to rephrase their initial statement (e.g., "Can you say that differently?"). Elicitation questions, unlike metalinguistic clues, demand more than a simple yes or no answer. Elicitation involves three primary methods teachers employ to prompt students to provide the correct form. Initially, teachers encourage students to complete their sentences by purposefully creating pauses for them to contribute. Secondly, teachers employ questioning techniques to extract accurate responses. Lastly, teachers intermittently request students to rephrase their original statement.

In terms of repetition, it involves the teacher repeating the student's incorrect statement on its own. Typically, the teacher modifies their intonation to emphasize the mistake.

In instances of explicit correction, the instructor or interlocutor clearly identifies a mistake and provides the correct form or expression. This

method aims to directly address inaccuracies, offering learners immediate guidance on the appropriate usage or structure in communication.

Lastly, paralinguistic signals in corrective feedback are non-verbal expressions used by the teacher, such as facial expressions, gestures, or changes in voice intonation, in response to a student's incorrect statement. For instance, when a student says, "I go to a school yesterday," the teacher might use a gesture, like pointing a thumb backward, indicating the need to use the past tense.

3. LITERATURE REVIEW

A lot of research on types of corrective feedback and language learning has been done in the past and was shaped by influential researchers and scholars in the field. It can be said that different language teaching approaches dictated the way students were corrected or not corrected at all. On the other hand, moving forward from traditional to more communicative teaching strategies, many researchers and educators have been exploring benefits and disadvantages of oral feedback.

In this specific instance regarding observing interaction between teacher and student and types of feedback predominantly used in EFL classroom, it is interesting to mention some of the earliest studies such as those by Allwright (1976) who points out that for many years, the main goal of language teaching has been seen as promoting 'communication' and that there is a growing focus on understanding what this goal truly means. Some argue that, in practice, language teaching has not been very effective in developing good communication skills. This is often attributed to the fact that language courses, including textbooks and official guidelines, tend to focus more on analysing the language itself rather than on teaching practical communication skills (Allwright, 1976). The emphasis on communication and the importance of oral interaction in language learning aligns with Michael Long's Interaction Hypothesis which highlights the significance of interaction and meaningful communication in the language acquisition process (Long, The role of the linguistic environment in second language acquisition in W. C. Ritchie, & T. K. Bhatia (Eds.), 1996) along with Schmidt's Noticing Hypothesis (Schmidt, 2010).

In order to notice and be aware of his or her errors, a learner should be provided with some guidance and support in the form of feedback. Chaudron's descriptive exploration of corrective feedback provided to language learners laid the

foundation for understanding its varied forms and impacts, thereby offering valuable insights into how learners can effectively address and rectify their errors. He conducted observations on three French immersion teachers handling both subject-matter and French language arts classes for Grades 8 and 9 during different periods of the school year. Analysing the transcripts, he constructed a detailed model of the error correction process, enabling comparisons between various teacher reactions to error moves and corresponding student correction moves (Chaudron, 1977). Furthermore, Chaudron investigated the impact of different teacher repetitions on student responses. His findings indicated that certain types of feedback, particularly those involving condensing the learner's statement to highlight errors and emphasizing them with a questioning tone or stress, were more effective in prompting correct student responses. (Chaudron, 1977) This implies that, in Chaudron's study, these specific feedback strategies played a crucial role in facilitating accurate student reactions.

Additional research by scholars like Lyster and Ranta (1997) delved into the effectiveness of different corrective feedback types, contributing to the ongoing discourse on language acquisition. Their research focused on corrective feedback and learner responses in primary-level immersion classrooms, analysing 18.3 hours of classroom interaction from both subject-matter and language arts lessons. The research identifies six feedback types employed by teachers, with recasts being the most frequent, although less effective in prompting student-generated repair. Conversely, elicitation, metalinguistic feedback, clarification requests, and repetition prove more successful in initiating what the authors term the 'negotiation of form' (Ranta & Lyster, 1997) as cited in (Panova & Lyster, 2002).

Panova and Lyster's study specifically considered how different types of feedback affect students' reactions. The study showed that implicit reformulated feedback, including recasts and translation, was strongly preferred, limiting the incidence of other feedback types and discouraging learner-generated repair. Consequently, rates of learner uptake and immediate error repair were observed to be low in this particular classroom (Panova & Lyster, 2002).

In Lyster and Ranta's study (1997), recast emerges as the most frequently used but least effective method, attributed to its low rate of students' uptake. In contrast, elicitation is identified as yielding the highest rate of students' uptake. However, Long contradicts this perspective,

asserting that recast is the most effective method as it introduces correct target language forms without disrupting communication (Long, 2007). Lyster advocates for elicitation, emphasizing its role in enhancing learners' control over mastered language forms. These varying views, along with Russel and Spada's acknowledgment of corrective feedback's contribution to language acquisition, highlight the absence of a consensus on the most effective corrective feedback approach (Russell & Spada, 2006).

While recognizing the potential benefits of oral feedback in language learning, it is essential to juxtapose these insights with the concerning reality of the low frequency of feedback episodes observed in classroom interactions. Hattie's extensive review (1999) emphasized the pivotal role of feedback in learning, akin to the quality and quantity of instruction. However, a disconcerting pattern emerged as feedback incidence in classrooms was found to be remarkably low, often measured only in seconds per day according to Hattie's inaugural lecture (Hattie, 1999) as cited in (Voerman et al., 2012). This scarcity was further underscored by Pauli's 2010 findings as cited in (Voerman et al., 2012), revealing infrequent feedback interventions, where teachers often relied on new questions and additional explanations without explicitly reviewing student responses. Notably, the feedback provided tended to be non-specific, primarily in the form of simple praise such as 'good' or 'that's right.' This contrast between the recognized benefits of oral feedback and the observed scarcity of feedback instances highlights a critical gap in understanding and prompts further exploration into the dynamics of feedback in classroom interactions.

Recent studies, such on oral corrective feedback in EFL by Ha et al. (2021) have delved into the beliefs of both teachers and students concerning the importance, types, and timing of feedback in the EFL context (Ha et al., 2021). In this study the examination of feedback beliefs among Vietnamese EFL teachers and students involved 250 students and 24 teachers from four schools in Vietnam. Both groups valued explicit correction and metalinguistic feedback. However, a notable difference arose in timing preferences, with students favouring immediate feedback (Ha et al., 2021). This positive stance toward corrective feedback aligns with Bulbula's study (2020), which emphasizes the prevalence of explicit correction strategies employed by EFL teachers in providing oral error corrective feedback (Bulbula, 2020). Bulbula's findings underscore the consistent preference among learners to be corrected by their

teachers, emphasizing the significance of explicit correction in the context of oral error correction in EFL speaking classes (Bulbula, 2020). Additionally, Mašić and Bećirović 's study (2021), focusing on attitudes toward learning EFL among Bosnian high school students, provides valuable insights into how learners' attitudes may influence the effectiveness of corrective feedback in the EFL context. The study explored the attitudes concerning learning EFL among Bosnian high school students, considering cognitive, behavioural, and emotional aspects of attitude, as well as the effects of students' gender, grade level, GPA, and GPA in EFL on their attitudes and achievement in learning EFL (Mašić & Bećirović, 2021). The results of Mašić and Bećirović 's study indicated significant influences of gender, grade level, GPA, and GPA in EFL on students' attitudes toward learning EFL, with cognitive aspects being the most influential (Mašić & Bećirović, 2021). These findings suggest that learners' attitudes toward EFL learning may impact their responses

While existing literature has significantly advanced our understanding of corrective feedback in the realm of EFL classrooms, notable gaps persist, particularly in the face of ambiguity and conflicting perspectives. The dichotomy between the recognized benefits of oral feedback, as elucidated by influential researchers such as Allwright (1976), Long (2011), and Lyster (2002), and the observed scarcity of feedback instances, as disclosed in studies by Hattie (1999) unveils a critical gap in comprehending the nuanced dynamics of corrective feedback in EFL settings. The inconclusive debate surrounding the most effective corrective feedback approach, exemplified by divergent views from scholars like Long (2011), Lyster (2002), and Russell (2006), further emphasizes the ambiguity within the literature.

Previous studies have explored the status of language skills development in the Bosnian EFL context, shedding light on prevalent teaching practices and learners' attitudes (Ogric-Kevric & Dubravac, 2017). The findings indicate that speaking and reading are the most practiced language skills, reflecting the communicative language teaching trends in Bosnian EFL classrooms. However, concerns remain regarding the limited emphasis on listening and writing skills, suggesting a need for further exploration into teaching strategies that promote holistic language development (Ogric-Kevric & Dubravac, 2017). In the context of Bosnia and Herzegovina, a study by Ahmetović et al., (2023) examined the impact of oral corrective feedback on EFL learners' motivation and achievement. The research found that students generally appreciate

and benefit from oral feedback, viewing it as crucial for improving their English skills. However, there were differences in attitude, with positive feedback reception correlating with higher motivation and proficiency. Conversely, negative attitudes could lead to decreased confidence and hindered progress. This highlights the importance of tailored feedback approaches to support diverse learner needs in the Bosnian EFL context (Ahmetovic et al., 2023). While Ahmetović et al.'s (2023) study on oral corrective feedback in Bosnia and Herzegovina included quantitative data, its lack of qualitative observation raises concerns about the depth of understanding regarding learners' views and the frequency of feedback provided. In contrast, current research focuses exclusively on qualitative observation, delving into specific types of feedback, students' uptake, and feedback frequency. This qualitative approach offers a nuanced perspective, complementing the quantitative findings of Ahmetović et al. (2023) and providing a more comprehensive understanding of corrective feedback dynamics in EFL classrooms.

4. METHODOLOGY

4.1 Research Purpose

Before delving into the specifics of the research design and data collection, it is essential to outline the key questions that guided this study.

Research Questions

1. What are the prevalent types of corrective feedback used in the EFL classroom at Richmond Park International Secondary School?
2. How do different feedback strategies contribute to instances of learners' uptake and self-correction?
3. What is the impact of teachers' corrective feedback on student uptake, and in what ways do students choose to respond—by correcting themselves or persisting without rectification?

4.2 Research Design and Procedure

In exploring the dynamics of corrective feedback in the EFL classroom, a qualitative research method with an observational design was employed. Systematic documentation of various feedback types and students' responses provided valuable insights into teacher-student interactions.

4.2.1 Participant Selection

The participant selection process was guided by practical considerations, emphasizing convenience and availability. As the head of the English department at Richmond Park International Secondary School, the researcher's affiliation facilitated smooth coordination, integrating the study into the existing school structure and timetable. While this convenience sampling method may lack the representativeness of more rigorous approaches, it aligns with the study's observational and descriptive nature, offering a practical avenue to explore corrective feedback dynamics in the authentic context of the EFL classroom.

The deliberate inclusion of the entire class of 23 students aimed at capturing a comprehensive view of teacher-student interactions and feedback dynamics within the specific classroom setting. Leveraging the fact that the chosen teacher instructs this class allowed for a more focused examination of feedback processes relevant to the research questions.

To maintain awareness levels, both the teacher and students were kept uninformed about the specific purpose behind the observations. While the general nature of the study as an observational and descriptive inquiry was communicated, the precise focus on corrective feedback and its dynamics in the EFL classroom was intentionally undisclosed. This non-disclosure aimed to ensure the natural unfolding of teacher-student interactions, providing an authentic portrayal of the feedback processes in action.

The teacher, a 30-year-old male with over 8 years of teaching experience at an international high school in Sarajevo in Sarajevo, was selected based on factors such as convenience, proximity, availability at the designated time, and willingness to participate in the research. The learners, comprising 10 females and 13 males aged between 15 and 16, actively participated in the study.

4.2.2 Data Collection

During the two-week data collection period, the study involved the observation of three lessons in the first week, each lasting 45 minutes, followed by two lessons in the second week. This scheduling provided a comprehensive view of the teacher-student interactions, allowing for the documentation of instances of corrective feedback and students' responses across different instructional settings.

The educational materials utilized during this period were sourced from the Solutions Upper-Intermediate textbook, 3rd edition, authored by Tim Falla and Paul A Davies. This textbook integrates meaning-focused activities, pair work, group tasks, discussion-based activities, essential model conversations, strategies fostering critical thinking, and authentic texts that relate students to real-world contexts.

The adaptation of the observation form from Nur Kurnia Rahman's study involved a thoughtful modification process to align it with the specific focus and objectives of the current research. In Rahman's original form, designed for a study on oral feedback for junior high school students, he included categories such as Recast, Clarification Request, Metalinguistic feedback, Elicitation, Repetition of error, and Explicit correction, along with a structured layout including the teacher's name, class details, date, and other relevant information.

For the present study, the form was tailored to capture key elements essential for examining corrective feedback dynamics in the EFL classroom. The adapted form retained the following components:

- Type of oral feedback: Identifying the specific type of feedback employed by the teacher.
- In-class occurrence: Documenting when the feedback occurred during the lesson.
- Example: Providing a concrete illustration or excerpt of the feedback in context.
- Lesson topic: Noting the subject or theme of the lesson during which the feedback occurred.
- Student reaction (positive or negative): Capturing the immediate response of the student to the feedback.
- Students' correction/corrected themselves/continued without correcting themselves: Recording whether the student attempted self-correction or continued without addressing the feedback.

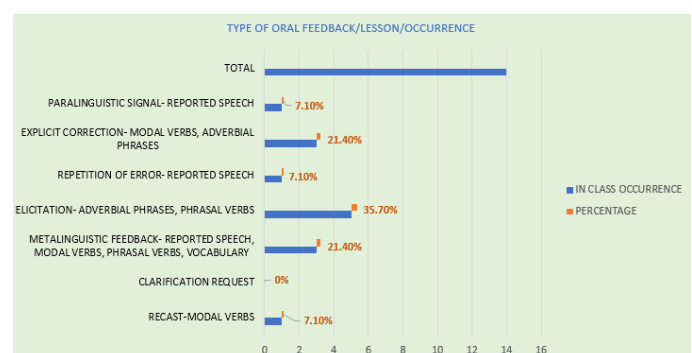
Additionally, the observation form also included a category for students' overall reaction, indicating whether they corrected themselves or not. This adaptation ensured that the observation tool was tailored to suit the objectives of the current study, maintaining consistency with the original form's structure while incorporating modifications

essential for capturing relevant data on corrective feedback in the EFL classroom context.

4.2.3 Data analysis

The data reveals a total of 14 instances of oral feedback categorized into different types. The following breakdown illustrates the occurrence and percentage distribution of each feedback type with an example observed in the lessons.

Figure 1:
The number of occurrences and feedback type



5. RESULTS

In this chapter, the observed instances of corrective feedback types used by the teacher, students' reactions, and their ability to provide successful uptakes and self-corrections are presented. The analysis includes specific examples of feedback instances along with the corresponding lesson topics.

5.1 Most Prevalent Types of Corrective Feedback

The most frequently observed types of corrective feedback in the EFL classroom at Richmond Park International Secondary School, in relation to the first research question, were elicitation, metalinguistic feedback and explicit correction.

Elicitation

Elicitation, accounting for the majority of feedback (five instances-35.70%), involved prompting students to produce language, especially in the use of adverbial phrases and phrasal verbs. This method actively promoted student engagement and participation.

Lesson topic examples:

- Describing stories vocabulary
- Teacher: What is a fable?
- Student: a novel?
- Teacher: a novel or a short story?
- Student: a short story
- Adverbs and adverbial phrases
- Teacher: What parts of speech do we use to describe nouns?
- Student: Adverbs
- Teacher: Adverbs and ...
- Student: adjectives

Lesson topic: Adverbs and adverbial phrases

- *Teacher delivered handouts.*
- *Example sentence:* The gang didn't know that the police had them under surveillance.
- *Teacher:* If I add little at the beginning of the sentence, what will happen?
- *Student:* Nothing changes.
- *Teacher:* Let's remember previous lesson, it was about...:
- *Student:* Inversions
- *Teacher:* How do we invert? You know I like maths, what is the formula?
- *Student:* adverb plus subject plus helping verb
- *Teacher:* adverb plus helping verb plus subject and main verb

Lesson topic: Phrasal verbs

- *Teacher:* What type of verb is make up
- *Student:* irregular
- *Teacher:* OK, but if it has up, in, on what do we call them

- *Student:* Phrases, phrasal verb
- *Teacher:* Let's do some vocabulary revision, OK
- *Student:* I am going to say an adjective and you give me the opposite meaning
- *Teacher:* Fearless
- *Student:* chicken
- *Teacher:* What is a more formal way of saying that
- *Student:* Coward

Metalinguistic Feedback

Metalinguistic feedback, involving explicit language analysis, occurred three times (21.40%) during lessons on reported speech, modal verbs, phrasal verbs, and vocabulary. This feedback type aimed not only to rectify grammatical errors but also to deepen language learners' understanding and cognitive abilities.

In-class occurrence examples:

Lesson topic: Modal verbs

- *Teacher:* Can someone use MUST in a sentence?
- *Student:* I must to go to school.
- *Teacher:* You must go to school. Do we use TO with must?
- *Student:* No, we don't.
- *Lesson topic:* Reported speech
- *Teacher:* Did you go to school?
- *Student:* Teacher asked did I go to school?
- *Teacher:* What do we change in Reported speech?
- *Student:* Tense
- *Teacher:* OK, and what else?
- *Student:* Word order

- Teacher: That's right, now try again
- Student: Teacher asked if I had gone to school.

Explicit Correction

Explicit correction involved directly pointing out and rectifying errors related to modal verbs and adverbial phrases. This occurred three times during lessons (21.40%). This approach contributes to clarity but may vary in its impact on long-term learning.

Lesson topic: Vocabulary revision

- Teacher: What does macabre mean?
- Student: Cabare?
- Teacher: Sounds like that, but it is not, it means something strange or unpleasant.
- Student: OK

Lesson topic: Adverbs

- Student: adverb plus subject plus helping verb
- Teacher: adverb plus helping verb plus subject and main verb

Lesson topic: Modal verbs

- Teacher: What modal verb is used for expressing obligation?
- Student: might
- Teacher: Obligation is something we HAVE to do

Other types of oral feedback included recasts, repetition of error and paralinguistic signal.

Recast

Recast, involving the reformulation of a student's utterance, occurred in one instance (7.10%) related to modal verbs. The teacher subtly corrected the error by removing the unnecessary preposition 'to,' aiming to maintain the flow of communication.

In class occurrence:

- Student: I might to swim today
- Teacher: I might swim today
- Student: I might swim today. Yes, I knew it.

Repetition of Error

In one instance (7.10%), the teacher repeated the student's error, particularly related to reported speech. This approach can draw attention to the mistake and provide an opportunity for self-correction.

Lesson topic: Reported speech

- Teacher: Can someone report the statement written on the board: She has an exam.
- Student: She said that she has an exam
- Teacher: She said that she HAS an exam
- Student: Yeah

Paralinguistic Signal

A small percentage of feedback, only once (7.10%), involved paralinguistic signals, particularly related to reported speech. The teacher used a hand gesture to point out the shift in tense, employing a one-tense-back signal. Paralinguistic cues, such as gestures, can convey additional meaning or correction.

Lesson topic: Reported speech

- Teacher: How do tenses change
(Giving a hand gesture to imply one tense back)

Clarification Request

- No instances of clarification requests were observed (0%).

5.2 Contribution of Different Feedback Strategies to Instances of Uptake and Self-Correction

In examining the data, each corrective feedback strategy played a unique role in fostering

instances of learners' uptake and self-correction, including elicitation, metalinguistic feedback, explicit correction, and others which were observed. Elicitation, the most prevalent feedback type, actively prompted students to produce language, fostering engagement and participation. This strategy significantly contributed to successful self-corrections. In addition, metalinguistic feedback, involving explicit language analysis, aimed not only to rectify errors but also to deepen language learners' understanding and cognitive abilities. Positive student reactions and successful self-corrections were observed.

Explicit correction, which directly pointed out and rectified errors, contributed to clarity in oral expressions. While its impact on long-term learning varied, positive student reactions and successful self-corrections were noted.

Additional types of oral feedback, such as recasts, repetition of error, and paralinguistic signals, also played roles in shaping students' responses. Repetition of error drew attention to mistakes, while paralinguistic signals, such as gestures, conveyed additional meaning or correction.

Interestingly, no instances of clarification requests were observed. This absence may indicate students' sufficient clarity in oral expressions or a potential hesitancy preventing them from seeking clarification.

5.3 Impact of Teachers' Corrective Feedback on Student Uptake and Responses

In investigating the impact of teachers' corrective feedback on student uptake, diverse responses were observed across different feedback types. Explicit correction, involving direct pointing out and rectifying errors, generally yielded positive reactions and successful self-corrections, showcasing its effectiveness in facilitating student learning. On the contrary, repetition of error, where the teacher repeated the student's mistake, showed varying outcomes, with instances where students persisted without rectification, indicating a less favourable response. Similarly, recasting, the reformulation of a student's utterance, generally led to positive reactions and successful self-corrections, contributing to a positive classroom atmosphere.

Notably, the absence of clarification requests raises intriguing questions about students' communication dynamics. The limited use of this feedback type suggests either students'

self-sufficiency in oral expressions or potential hesitancy in seeking further explanation. Overall, these findings highlight the nuanced nature of corrective feedback interactions, emphasizing the need for a tailored approach that considers the varying impact of different feedback strategies on student uptake and self-correction.

6. DISCUSSION

The objective of this study was to investigate various forms of corrective feedback and learner responses in an EFL classroom. The observed instances shed light on the dynamic interaction between teachers and students, providing insights into the effectiveness of different feedback strategies.

The research context aligns with the broader literature on corrective feedback and language learning, influenced by different language teaching approaches. Notably, the shift from traditional to communicative strategies has prompted exploration into the benefits and disadvantages of oral feedback.

In this study, elicitation emerged as a predominant method, fostering active student engagement and participation. The emphasis on prompting students to produce language aligns with the evolving focus on meaningful communication in language teaching, as noted by influential researchers like Allwright (1976). The significance of elicitation is reinforced by Chaudron's early work (1977), emphasizing its role in facilitating accurate student reactions. This alignment is further supported by the findings in Ogric-Kevric and Dubravac (2017), which highlight the effectiveness of elicitation in facilitating student involvement and interaction. While these studies focused on the effectiveness of elicitation in fostering student engagement, Masic's research (2021) provides additional insights into the role of corrective feedback in promoting language proficiency (Mašić & Bećirović, 2021). By examining the intersection of feedback strategies and learner motivation, Masic's findings (2021) complement the discussion on the multifaceted nature of corrective feedback in language acquisition. Incorporating Masic's perspective (2021) into our analysis enriches our understanding of the nuanced dynamics at play in EFL classrooms and underscores the importance of considering learner motivation alongside pedagogical strategies.

Metalinguistic feedback, particularly during lessons on reported speech, modal verbs, phrasal

verbs, and vocabulary, proved to be a valuable pedagogical tool. This type of feedback not only rectified grammatical errors but also contributed to a deeper understanding and cognitive development in language learners. The positive student reactions and successful self-corrections align with the literature, emphasizing metalinguistic feedback as an effective means of explicit language analysis.

The absence of clarification requests in the observed instances raises noteworthy considerations. It may indicate either a positive scenario where students demonstrate sufficient clarity or a potentially negative scenario where hesitancy prevents students from seeking clarification. This dual interpretation underscores the need for further exploration into students' communication dynamics and their willingness to seek clarification.

Explicit correction and repetition of error yielded varying student reactions, with positive responses observed in explicit correction instances. The nuanced approach to feedback, as reflected in the teacher's decision to repeat an error despite negative student reactions, highlights the complexity of corrective strategies in the classroom. Paralinguistic signals, though infrequently used, effectively conveyed additional meaning, emphasizing the role of non-verbal cues in aiding understanding.

Comparisons with studies on students' uptake, particularly by Lyster (1997) and Ranta (1997), reveal differing perspectives on the effectiveness of recasts and elicitation. The varying views in the literature, as presented by Long (2011), Lyster (1997), and Russell (2006), highlight the absence of a consensus on the most effective corrective feedback approach.

The recognition of the potential benefits of oral feedback in language learning juxtaposed with the low frequency of feedback episodes observed in classroom interactions raises critical questions. The scarcity of feedback instances, as highlighted by Hattie and Pauli (1999), emphasizes a crucial gap in understanding the dynamics of feedback in classroom interactions. This gap prompts further exploration into the practical implementation of corrective feedback strategies in EFL classrooms and their true impact on language learning outcomes.

Ahmetović et al.'s study (2023) provided valuable insights into the impact of oral corrective feedback on learners' motivation and achievement,

indicating that students generally appreciate and benefit from oral feedback, albeit with differences in attitude affecting motivation and proficiency. However, their research lacked qualitative observation, which raises concerns about the depth of understanding regarding learners' perspectives and the frequency of feedback provided. In contrast, by comparing students' uptake of different types of feedback, this study adds another layer of understanding to the dynamics of corrective feedback in the classroom. Understanding which types of feedback are more readily accepted or acted upon by students can inform educators about effective feedback strategies and help tailor feedback approaches to better meet the needs of individual learners.

While existing literature has advanced our understanding of corrective feedback in EFL classrooms, notable gaps persist. The dichotomy between recognized benefits and observed scarcity unveils a critical gap in comprehending the nuanced dynamics of corrective feedback. The inconclusive debate on the most effective approach further emphasizes the ambiguity within the literature. This study contributes by delving into the specific nuances of corrective feedback dynamics in the EFL context, seeking to unravel complexities and offer valuable insights for effective language teaching practices.

7. CONCLUSION

This study aimed to explore the intricate dynamics of corrective feedback in an EFL classroom, shedding light on various strategies and learner responses. The insights gleaned from this investigation not only contribute to the existing body of research on corrective feedback but also align with the perspectives of other scholars in the field. Elicitation emerged as a central and pivotal strategy, fostering active student engagement and aligning seamlessly with communicative teaching approaches. Chaudron's early insights provided reinforcement to the significance of elicitation in facilitating accurate student reactions. The prevalence of elicitation as a feedback strategy resonates with the emphasis on interactive learning environments and student engagement embedded in language acquisition theories.

Building upon the foundation laid by researchers like Lyster and Ranta, metalinguistic feedback played a crucial role, particularly during explicit language analysis. This type of feedback contributed not only to error correction but also to the deeper understanding and cognitive

development of language learners. Lessons on reported speech, modal verbs, phrasal verbs, and vocabulary became key arenas for metalinguistic feedback, showcasing its multifaceted benefits. However, the absence of clarification requests introduces a nuanced aspect, prompting consideration of either positive student clarity or potential hesitancy issues. This underscores the need for further exploration into the dynamics of communication within the classroom. Explicit correction and repetition of errors, despite yielding varying student reactions, accentuate the nuanced nature of corrective feedback. Notably, the negative student reactions to error repetition emphasize the importance of considering individual learner preferences in feedback approaches.

In the broader context of corrective feedback in EFL classrooms, it is valuable to draw parallels with recent studies, such as those conducted by Ha (2021) and Bulbula (2020). Ha's exploration into the beliefs of Vietnamese EFL teachers and students regarding feedback importance, types, and timing aligns with findings on prevalent feedback types and timing preferences of this study. Namely, this study, conducted at an international high school in Sarajevo, resonates with Ha's insights, revealing a shared appreciation for explicit correction and metalinguistic feedback. It also provides valuable insights into the specifics of corrective feedback practices within our context. The prevalence of explicit correction strategies observed aligns with findings from Bulbula's study (2020), which also emphasizes the consistent preference among learners to be corrected by their teachers. Aspects of this study's findings are validated, and contributions to the ongoing discourse on corrective feedback practices in diverse EFL contexts are made by these recent studies.

Moreover, both shared trends and contextual variations in feedback practices are highlighted by comparative insights from Ha (2021) and Bulbula (2020). While the dynamics of corrective feedback are the focus of this study, the broader perspective offered by these studies enriches the understanding of feedback strategies in different educational settings. By acknowledging these comparative perspectives, a more comprehensive understanding of the complexities and nuances inherent in corrective feedback practices is gained, ultimately informing future research and educational practices in EFL contexts.

In essence, this study enriches the ongoing discourse on corrective feedback, underscoring its integral role in language acquisition. Recognizing

the multifaceted nature of corrective feedback and considering diverse feedback types within the context of individual student needs is paramount. As educators continue to refine their pedagogical practices, acknowledging these complexities becomes essential for creating effective and supportive language learning environments.

8. IMPLICATIONS FOR FURTHER TEACHING

Teachers can further enhance elicitation techniques to encourage critical thinking and active participation. This involves creating opportunities for students to complete sentences, respond to questioning, and rephrase statements.

Given the positive impact of metalinguistic feedback, teachers should continue to integrate explicit language analysis into lessons. This involves providing explanations, asking questions, and guiding students to recognize and correct their mistakes.

The absence of clarification requests warrants further investigation into students' communication dynamics. Teachers can encourage an open and supportive communication environment, addressing potential barriers to seeking clarification.

Teachers should consider the varied reactions to explicit correction and tailor their strategies based on student responsiveness. Balancing direct correction with positive reinforcement can contribute to a constructive feedback approach. Based on this study students reacted negatively to repetition of error and failed to self-correct, which may stem from students' sensitivity to having their errors explicitly highlighted through repetition. This method could cause discomfort or demotivation for certain students, potentially making them hesitant to participate in self-correction.

Acknowledging the diversity in students' feedback preferences, educators can implement a personalized approach by recognizing individual learning styles and tailoring feedback strategies accordingly. Educators play a crucial role in fostering students' self-correction abilities by offering resources and methodologies that enable them to recognize and correct errors autonomously. This empowers students to assume responsibility for their learning and promotes a proactive attitude toward enhancing their language skills.

While infrequently used, paralinguistic signals demonstrated effectiveness. Teachers may explore and incorporate non-verbal cues that align

with their teaching style, providing additional layers of meaning and correction.

By incorporating these insights into teaching practices, educators can create a more dynamic and effective language learning experience for students at an international school in Sarajevo.

While this study offers valuable insights into corrective feedback dynamics in the EFL classroom at an international school in Sarajevo, certain limitations must be acknowledged. The findings are specific to the context of this particular school, and the unique characteristics of its student body, teaching methods, and cultural context may limit generalizability to other EFL settings. The study's relatively small sample size may impact the robustness and generalizability of the findings. Additionally, the focus on a specific timeframe might not capture potential changes or variations in feedback practices over an extended period.

The study did not extensively explore the quality of teacher-student relationships, a factor known to influence feedback dynamics. A more in-depth investigation into these relationships could offer nuanced insights into the socio-emotional aspects of corrective feedback. The study primarily relies on qualitative analysis, providing rich descriptions but lacking extensive quantitative analysis, which could offer statistical significance and further validate qualitative findings.

Suggestions for future research include cross-cultural comparative studies to reveal variations in corrective feedback practices across diverse educational settings. Longitudinal investigations tracking the impact of corrective feedback on language proficiency over an extended period could provide insights into sustainability and long-term effects. Exploring the dynamics of teacher-student relationships in the context of corrective feedback could uncover emotional and interpersonal aspects influencing student responses. Integrating quantitative methods, such as surveys or statistical analyses, would complement qualitative findings and allow for a more robust assessment of specific feedback types' prevalence and effectiveness.

In conclusion, addressing these limitations and exploring suggested areas in future research endeavours will contribute to a more comprehensive understanding of corrective feedback in diverse EFL contexts.

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ORIGINAL RESEARCH PAPER

EXPLORING CULTURAL EXPECTATIONS, LINGUISTIC DISCRIMINATION, AND LANGUAGE LEARNING ANXIETY: A COMPARATIVE STUDY OF BOSNIAN AND ARAB STUDENTS IN BOSNIA AND HERZEGOVINA

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ABSTRACT

This research explores the impact of cultural expectations and linguistic discrimination on English as a Foreign Language (EFL) learning anxiety among Bosnian and Arab students in Bosnia and Herzegovina. Language learning anxiety, a critical aspect of language acquisition, is influenced by various factors, including cultural expectations and experiences of linguistic discrimination. The study compares the experiences of Bosnian and Arab students, delving into cultural nuances and discriminatory perceptions that shape their language learning journey. Through a qualitative research design, including semi-structured interviews and a comprehensive questionnaire, data were collected from 20 participants. The findings reveal distinctive patterns in the influence of cultural expectations on language learning attitudes and the negative impact of linguistic discrimination on students' willingness to communicate - Bosnian students idealize native accents, while Arabic students seek native-like proficiency to avoid potential discrimination. Linguistic discrimination emerges as a significant source of anxiety, impacting students' willingness to communicate and draining their motivation. This research contributes to the existing body of knowledge by addressing the gap of literature on the specific impact of cultural expectations and linguistic discrimination on EFL learning anxiety. The insights gained provide a foundation for developing culturally sensitive interventions to alleviate anxiety and enhance language learning outcomes.

Keywords: (EFL) Learning Anxiety, Cultural Expectations, Linguistic Discrimination, Multicultural Context, Language Acquisition, Diversity in Language Learning

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Introduction

Language learning is a complex process that involves various cognitive and affective factors. One prominent emotional aspect that significantly influences language acquisition is language learning anxiety. Language learning anxiety has been the subject of research for several decades, Horwitz, Horwitz and Cope (1986) were among the first to define language anxiety as “a distinct complex of self-perceptions, beliefs, feelings, and behaviors related to classroom language learning arising from the uniqueness of the language learning process” (p. 128). However, it has been observed that there are other key factors that impact the level of this kind of anxiety, two of those factors are cultural expectations and linguistic discrimination. Cultural differences play a significant role in shaping learners’ perceptions, expectations, and responses to language learning situations. Culturally influenced communication styles, social norms, and attitudes toward authority figures can all contribute to the manifestation of anxiety in language classrooms (Young, 1991). Discrimination, favoring one language variety over another, is a significant source of anxiety in multicultural settings, learners with non-native accents or different linguistic features may fear negative evaluation or discrimination (Derwing & Munro, 2013). As people from diverse linguistic backgrounds strive to excel in English, they navigate a complex terrain shaped not only by linguistic challenges but also by cultural expectations and the possibility of facing discrimination. This study aims to explore the intricate interplay between cultural expectations and linguistic discrimination, examining their combined impact on EFL learning anxiety within two distinct communities: Bosnians and Arabs.

An emerging realization in research highlights the critical influence of linguistic discrimination in shaping the complex landscape of language learning anxiety. Linguistic discrimination, manifested through bias, prejudice, or stigmatization based on language proficiency or accent, can significantly impact individuals’ psychological and emotional well-being during the language acquisition journey. Linguistic discrimination plays a role in the academic underperformance of non-native English speakers when compared to their native English-speaking counterparts (Roessingh & Douglas, 2012; Top of Form). Therefore, discriminatory attitudes elicit reactions like fear, anxiety, and apprehension, among other responses, that hinder and restrict class engagement, the quality of inter-

action, the adaptation of new concepts and knowledge, motivation in language learning, and the understanding of course contents (Rojas et al., 2016). Stereotypes associated with particular accents or language varieties can contribute to a heightened sense of self-consciousness and anxiety in language learners (Lev-Ari & Keysar, 2010). Therefore, this study aims to contribute to the existing body of knowledge by closely examining the intricate relationship between linguistic discrimination and the manifestation of anxiety in language learners.

This research aims to contribute to the existing body of knowledge by exploring and comparing the experiences of Bosnian and Arab individuals in their quest for English language proficiency in Bosnian academic institutions. The aim of this research is to investigate cultural expectations and attitudes toward English as a foreign language, exploring their potential influence on the level of language learning anxiety. The study aims to understand how these cultural expectations contribute to students’ willingness to participate and motivation in the language learning process. Additionally, the research seeks to examine the repercussions of experiencing linguistic discrimination on students’ levels of anxiety and motivation within the context of learning English. By dissecting the influence of cultural expectations and linguistic discrimination on the levels of anxiety within these populations, we aim to shed light on the intricate dynamics that shape language learning outcomes in diverse cultural contexts where English language knowledge is appreciated. English proficiency is important for achieving educational and economic milestones in both cultures. As a global lingua franca, English exerts a profound influence across various domains. Dedović-Atilla and Dubravac (2022), as well as Dubravac and Milak (2016), highlight the significant impact of English as a lingua franca on sectors like business and advertising respectively in Bosnia and Herzegovina. Likewise, in the Arab marketplace, globalization has underscored the necessity of English language proficiency, as highlighted by Al-Saraj (2014). Therefore, there is a pressing need for research aimed at enhancing English as a Foreign Language (EFL) acquisition, particularly by investigating factors that hinder this process.

Literature review

EFL learning anxiety has been a topic of extensive research, exploring the complexities and challenges faced by language learners worldwide. Anxiety in language learning has been recognized

as a multilayered phenomenon with various dimensions, including communication apprehension, test anxiety, fear of negative evaluation, and language classroom anxiety (Horwitz, Horwitz & Cope, 1986). It has gathered attention due to its potential influence on learners' language acquisition, proficiency, and overall learning experience. Scholars such as Horwitz et al. (1986) have emphasized the universal nature of language anxiety, highlighting its detrimental effects on various aspects of language learning, including speaking, listening, and writing.

According to MacIntyre and Gardner's (1994) socio-educational model, language anxiety is intricately connected to social factors, including the classroom environment, teacher-student interactions, and peer relationships. Gardner's Attitude/Motivation Test Battery (AMTB) further emphasizes the role of anxiety in shaping learners' attitudes and motivations toward language learning. These foundational studies set the stage for understanding the nuanced interplay between affective factors and language acquisition.

Cultural differences play a significant role in shaping learners' perceptions, expectations, and responses to language learning situations. Different cultural communication norms, societal expectations, and perspectives on authority figures can influence how anxiety is manifested in language learning environments (Young, 1991). The cultural dimensions of individualism and collectivism, as proposed by Hofstede (1980), may impact how learners experience anxiety, with collectivist cultures prioritizing group harmony and individualist cultures emphasizing personal achievement. Furthermore, the concept of "face" in intercultural communication (Goffman, 1967) introduces the idea that learners from cultures valuing positive social interactions and avoiding embarrassment may be more susceptible to anxiety when faced with potential language mistakes or negative evaluation. Al-Saraj (2014) investigated the impact of culture on Arabic (Saudi) students' anxiety. The research found that fear of making mistakes in Saudi Arabian culture is significant due to potential embarrassment and loss of face, therefore, students may avoid speaking in class due to fear of making mistakes and subsequent embarrassment. Additionally, Al-Shboul et al. (2013) investigated FLA among Jordanian students and have found high levels of anxiety concerning reading and pronunciation. Therefore, understanding how cultural factors and linguistic discrimination contribute to

language anxiety can be crucial for developing effective teaching strategies and fostering inclusive language learning environments.

Linguistic discrimination, the act of favoring one language variety over another, can be a significant source of anxiety for language learners, particularly in multicultural and multilingual environments linguistic - minority groups who face challenges in the educational system often experience a disempowerment in academic settings due to their interactions with the linguistically dominant group, which affects their academic performance (Cummins, 1988). Unfortunately, the relation between linguistic discrimination and language learning anxiety has not been studied enough, therefore, there is a need for further research to investigate this relation. Learners who speak with non-native accents or use different linguistic features may experience heightened anxiety due to the fear of negative evaluation or discrimination (Derwing & Munro, 2013). Stereotypes associated with particular accents or language varieties can contribute to self-consciousness and anxiety in language learners (Lev-Ari & Keysar, 2010). Moreover, Linguistic discrimination can impact educational experiences. Students who speak a non-standard dialect may face biases from teachers and peers (Labov, 1972). According to Page, C. (2023) linguistic discrimination in academia can lead to academic disadvantage and psychological impacts. Therefore, linguistic discrimination can affect anxiety, attitudes, motivation and willingness to participate.

Additionally, the relationship between linguistic discrimination and language learning anxiety is intertwined with broader issues of identity, belonging, and societal attitudes toward linguistic diversity (Norton, 2000). Learners who feel that their language abilities are not accepted or valued may internalize negative attitudes, impacting their confidence and motivation to engage in language learning activities. Therefore, Linguistic discrimination can have psychological effects on individuals, leading to feelings of inferiority, stress, and a sense of cultural alienation (Ryan, Giles, & Hewstone, 1988). Understanding the psychological aspects is crucial for addressing the wider implications of linguistic discrimination and its consequences. As revealed by Dovchin's (2020) research on international students in Australian tertiary education institutions, linguistic discrimination can lead to enduring feelings of inadequacy and a lack of belonging.

In regard to this context, both Bosnians and Arabs may experience foreign language anxiety when navigating new linguistic environments, especially in contexts of migration or education. For Bosnians, this might be relevant in the process of integrating into the European Union or other English-speaking contexts. Individuals with Bosnian or Slavic accents may experience challenges in social integration, where their accent becomes a marker of being “the other” in the host society which can lead to social exclusion and impact individuals’ sense of belonging and identity (Lippi-Green, 2012). Arabs, on the other hand, facing stereotypes and intense security concerns in post-9/11 Western contexts, might experience added layers of anxiety related to language use and identity. Therefore, linguistic discrimination can occur in contexts where Arabic language and its various dialects are stigmatized, or where speakers face prejudice based on their accent or proficiency in the dominant language of their host country (Suleiman, 2004). Arabic accents are often stigmatized and subjected to mockery in Western societies (Lippi-Green, 2012).

Understanding the interplay between cultural factors, linguistic discrimination, and EFL learning anxiety is essential for creating inclusive and effective language learning environments. By addressing this research gap, educators and policymakers can develop targeted interventions to alleviate anxiety, promote cultural sensitivity, and foster positive language learning experiences for diverse groups of learners. To address the identified gap in the literature, this research employs a qualitative method approach to explore the intricate connections between cultural expectations and differences, linguistic discrimination, and EFL learning anxiety. Qualitative methods, through interviews are aimed to offer a nuanced understanding of learners’ experiences, perceptions, and coping strategies.

The current study

Methodology

The study employed a qualitative research design to explore the impact of cultural differences and linguistic discrimination on language learning anxiety.

Participants

The sample comprised 20 participants, including 10 Bosnian and 10 Arabic adult (age 18–24)

students learning English as a foreign language. Participants were chosen to ensure diversity in terms of language proficiency, educational background, gender, and cultural experiences.

Participants were provided with detailed information about the study’s purpose and procedures, and consented to participating in the research. Participants’ identities were kept confidential, and data were anonymized during analysis to ensure privacy.

Participants represented various language proficiency levels, educational backgrounds, and both genders, offering a comprehensive perspective on the research topic. Table 1. indicates the characteristics of the participants (nationality, gender, and level of proficiency (A1 (Beginner), A2 (Elementary), and B1 (Intermediate))).

Table 1.
Participants’ Information

Participants	Nationality	Gender	Level of Proficiency
Participant 1	Bosnian	F	B1
Participant 2	Bosnian	F	A1
Participant 3	Bosnian	F	A2
Participant 4	Bosnian	F	A2
Participant 5	Bosnian	F	B1
Participant 6	Bosnian	M	A1
Participant 7	Bosnian	M	A2
Participant 8	Bosnian	M	A1
Participant 9	Bosnian	M	A2
Participant 10	Bosnian	M	B1
Participant 11	Arabic	F	B1
Participant 12	Arabic	F	A1
Participant 13	Arabic	F	A2
Participant 14	Arabic	F	B1
Participant 15	Arabic	F	A1
Participant 16	Arabic	M	B1
Participant 17	Arabic	M	A1
Participant 18	Arabic	M	A1
Participant 19	Arabic	M	B1
Participant 20	Arabic	M	A2

Research Questions

The presented study was guided by four research questions. These questions acted as a compass, guiding the research through the investigation. In this section, those questions will be introduced, helping unravel the complexities of the topic.

1. What are the attitudes and motivations of Bosnian and Arab students towards English language learning, considering the cultural expectations within their respective communities?
2. In what ways does linguistic discrimination affect language learning anxiety among Bosnian and Arab students?
3. How do Bosnian and Arab students perceive and react to linguistic discrimination in the context of learning English?
4. What are the gender-based variations in language learning anxiety among Bosnian and Arab students?

Interview Structure

The interviews were semi-structured, providing a balance between flexibility and consistency. While the interview guide included open-ended questions to encourage participants to express their thoughts freely, closed-ended questions were also incorporated to gather specific information. Participants were encouraged to elaborate on their responses, and follow-up questions were posed to delve deeper into their experiences. Each interview lasted a minimum of 30 minutes, allowing for detailed exploration of participant responses.

The questions were made by the researcher after a thorough analysis of famous scales such as FLCAS (Horwitz, Horwitz, & Cope, 1986), BALLI (Oxford, 1990), and the related researches mentioned in the literature review. The questions were modified to fit within a cultural perspective and many questions were added to test linguistic discrimination and cultural attitudes. A set of 37 questions, including both open-ended and closed-ended questions, was designed to explore participants' experiences, attitudes, and perceptions regarding cultural differences, linguistic discrimination, and language learning anxiety. The participants were asked to elaborate on their answers and were asked follow-up questions to investigate the matter in more depth.

Data Analysis

The data analysis followed a thematic approach. The interviews were recorded and analyzed to identify recurring themes related to cultural differences, linguistic discrimination, and language learning anxiety.

Results and discussion

The comparative analysis of EFL learning anxiety between Arabs and Bosnians in Bosnian educational institutions revealed noteworthy distinctions in cultural expectations and linguistic discrimination. Table 2. provides an overview of the general results of the participants in regards to EFL learning anxiety and experiencing linguistic discrimination.

Table 2.
Participants' General Results

Participants	(EFL) learning anxiety	Linguistic discrimination experienced
Participant 1	No	no
Participant 2	Yes	yes
Participant 3	Yes	no
Participant 4	No	no
Participant 5	Yes	no
Participant 6	Yes	yes
Participant 7	Yes	yes
Participant 8	No	no
Participant 9	Yes	no
Participant 10	No	no
Participant 11	No	yes
Participant 12	Yes	yes
Participant 13	Yes	yes
Participant 14	Yes	yes
Participant 15	yes	yes
Participant 16	No	yes
Participant 17	Yes	no
Participant 18	No	yes
Participant 19	No	no
Participant 20	Yes	yes

Among 20 participants, 12 (60%) reported experiencing EFL learning anxiety, while 8 (40%) did not report experiencing such anxiety revealing that a majority of participants experienced anxiety.

ety while learning English as a foreign language. Among them, 11 (55%) reported experiencing linguistic discrimination, while 9 (45%) did not report experiencing such discrimination. Among the participants who reported experiencing EFL learning anxiety, 8 out of 12 (66.6%) also reported experiencing linguistic discrimination. This suggests a possible association between EFL learning anxiety and the experience of linguistic discrimination. However, it is important to note that not all participants who experienced linguistic discrimination reported EFL learning anxiety, indicating that other factors have also contributed to their anxiety in language learning.

- ❖ Attitudes and motivations of Bosnian and Arab students towards English language learning, considering the cultural expectations within their respective communities:

Bosnian learners demonstrated a tendency to idealize standardized accents, often associating them with correctness and proficiency. Bosnian participants expressed a desire to conform to established pronunciation norms, aligning with the perceived linguistic ideals. Contrasting with Arabic learners who consistently reported a high cultural value placed on English learning, reflecting societal expectations that position English proficiency as a valuable skill. Many Arabic participants expressed a sense of duty to uphold cultural expectations regarding educational achievements. Bosnians acknowledged the absence of direct pressure from teachers to adopt native-like accents, and reported that the pressure is self-imposed, they reported that they do not want to sound Slavic. It is attributed to societal perceptions of certain accents, influenced by negative portrayals in Western media. The majority of Bosnian participants had a very positive attitude toward native accent and a very negative attitude toward Slavic accent.

- Participant 5: “like I don’t know I think my accent is really good, I work a lot on it. Sometimes my Slavic accent slips but I manage the situation (laughs). I try my best to not sound Bosnian”
- Participant 7: “Bosnian accent is similar to Russian, you know at movies they are always the bad person. So I try not to sound like that even though I don’t agree with this image”

Additionally, some had a strong believe that one should sound as native as possible and used strong words such as respect to the language.

- Participant 1: “People should do their best to sound great, it makes other speakers perceive you as smart and a good speaker, accent should be number one”
- Participant 9: “Like people should respect the language, this is the way it should be spoken so you must do your best to sound it”
- Participant 2: “I don’t know ... like you should sound American or British to respect the language, it sounds weird if you don’t”

However, it is important to note that these participants also reported a high level of anxiety and fear of making mistakes, and expecting to be mocked for it. Therefore, this idealization results in an increase in EFL learning anxiety. Therefore, native speaker idealization and belief in a standardized form of English affects non-native students’ self-concept and emotional well-being (Rojas et al., 2016).

- Participant 5: “I don’t like when my Slavic accent slips, I just think that I am not that good at English”

Conversely, Arabs reported a sense of pride in their distinct accents. They indicated that external influences, such as mockery from peers and media representation, prompted consideration of accent modification.

- Participant 14: “I feel like if I try to sound more European then I am saying that they are better than me, and they are absolutely not (laughs). I try to focus on being understood instead of not sounding Arabic, I am proud of my origin”

Arab participants emphasized the significance placed by their culture and parents on English language acquisition, driven by the statues of English as a global language and the importance of English knowledge in both professional and educational contexts. In contrast, Bosnians reported a varied parental stance, with some emphasizing the importance of learning English and others displaying indifference or resistance.

- Participant 1: “My parents don’t care about English, I feel like Bosnian parents are two

kinds some don't like English and say why should we learn it we have our own language and some think it is very important and put a pressure"

Bosnians reported that their anxiety depends more on the teachers' attitude, while Arabs showed more concern toward other students. Both Bosnians and Arabs showed high anxiety regarding communicating with natives. They said that they are afraid of making mistakes with them and that they would call them out for them, and some reported instances of that happening

- Participant 7: "Native English speakers are very pretentious especially in social media comments, if someone makes a mistake they are very very very quick to correct you"
- Participant 9: "I am a gamer so I sometimes play with natives, and it makes me really anxious because they make fun of my accent, someone once kept saying that I sound like a Russian spy. Ahhh ... I mean those are games so it doesn't really matter but I get afraid to get similar comments at work since I want to work abroad hopefully"
- Participant 6 "I am pretty anxious that, since I want to leave the country, employers will notice mistakes in my accent and not get the job because of it"
- Participant 12: "Like you know how people think about Arabic accent, I feel like they will choose the better accents to work for them"

When it comes to coping techniques, both Bosnian and Arabic learners employed various coping mechanisms in response to language learning anxiety rooted in cultural expectations. Strategies included seeking social support, engaging in self-reflection, and, in some cases, actively challenging discriminatory attitudes. The shared coping mechanisms suggest that cultural expectations not only contribute to anxiety but also influence how learners navigate and mitigate these anxieties. The strategies employed reflect a nuanced understanding of the role of culture in shaping adaptive responses.

In considering strategies to make language classrooms less anxiety inducing, participants highlighted the importance of communication activities and language use within the classroom. Both Arabs and Bosnians stressed the importance of

communication activities and using the language as ways to make language learning less stressful as when students see they are capable of using the language it gets them motivated. However, the students with anxiety stressed the importance of building a positive classroom environment where making mistakes is okay, and student who mock others mistakes are punished.

Using games and interactive activities were also emphasized as it lowers the anxiety levels

- Participant 5: "games are great, because I am anxious when I start then I have fun and forget anxiety"
- Participant 13: "Teachers should use more games like Kahoot it is so fun and we learn just like that"

Cultural differences were identified, with some Arabic students perceiving limited teacher influence on classroom dynamics, reflecting the teacher-centered nature of education in certain Arabic countries.

Some Arabic students reported that they believe that the teacher has no say in making the classroom less anxiety provoking. And this might be traced to cultural differences as in some Arabic countries teaching is still teacher centered and not much awareness of the teachers' responsibility and influence over building a positive classroom environment is spread.

- Participant 14: "I don't think teachers can do anything, I mean it is not their job, they come to teach, there is nothing they can do to help".

To sum it up, this research has been able to identify cultural difference between those two groups. Bosnian students want to sound native like as a result of idealization of the native accents, while Arabic students want to sound native to avoid mockery and potential discrimination in work and educational environment, both idealization and fear of mockery resulted in increase in EFL learning anxiety. These findings are significant as they align with Rojas et al., (2016), Al-Saraj (2014), Al-Shboul et al. (2013), Lev-Ari and Keysar (2010), and Norton (2000) results about the impact of culture on EFL learning anxiety. Additionally, both groups expressed fear of communicating with natives due to fear of potential discrimination.

- ❖ The effect of linguistic discrimination on language learning anxiety among Bosnian and Arab students, and their perception and reactions to this discrimination.

Linguistic discrimination emerged as a significant factor affecting participants' anxiety levels. Arabic students reported more instances of discrimination, correlating with heightened anxiety and diminished motivation. Interestingly, even students who typically respond positively to pressure reported that the detrimental impact of linguistic discrimination on their willingness to communicate, citing it as a debilitating source of motivation. This aligns with Rojas et al. (2016) who claimed that mockery and judgment of foreign students' language use and pressure to conform to native speaker norms hinder class participation and motivation. Therefore, although some reported that it motivates them in the sense that they want to prove the discriminators wrong, they said that it is a bad source of motivation and it is so depilating.

- Participant 20: "I felt so angry, I want make him feel bad when I learn, but ah it is exhausting"
- Participant 17: "I don't think it is a good motivation, like they shouldn't be reason for me to learn English"

An interesting source of anxiety and linguistic discrimination that two Arabic female students reported are the parents of some other Bosnian students. They said that some Bosnian parents are so involved in their children's education, and they have been angry if the Arabic students gets a higher grade than their children and they would bully them because of that, which resulted in a fear of potential future linguistic discrimination

- Participant 12: "The parent was speaking to the teacher and I am there, she said how the colored student have more grades than my son, and she ... the teacher looked at me like the parent has the right to say it. I felt that I don't deserve my grade"
- Participant 15: "The dad was like why do you give her extra attention, but I just moved her and I don't know Bosnian so I don't understand what are they saying, so I need extra practice and translation to follow"

The language of instruction emerged as a significant source of anxiety for Arabic students.

Many students reported that even though English was supposed to be the only language of instruction, Bosnian was still used as the language of instruction contributing to confusion due to exposure to two foreign languages. Thus, even though the course is said to be completely in English, the teachers still used Bosnian a lot. Concerns were raised about the unequal treatment of Arabic and Bosnian languages, their main complaint was that if you going to translate for them then translate for us too, and some teachers did that buy using google translate to clarify for Arabic students, however the Arabic students reported that Bosnian students and their parents reacted negatively to the use of Arabic in the class but so the use of Bosnian as okay.

- Participant 15: "like if you will use Bosnian then you have to translate for us too at least in English, but some students act like they are entitled to Bosnian but if we ask for something we are just wasting everyone's time"

However, while Arabic students reported instances of discrimination in the classroom, there was a lack of awareness among Bosnians regarding discrimination against Arabs. Only two Bosnian students reported noticing it, and only one of them spoke up against it.

- Participant 10: "some teachers keep switching to Bosnian, so I always keep reminding them to go back to English or translate, because it isn't fair"

Interestingly, students who were aware of the concept of linguistic discrimination reported that their anxiety were lessened as they realized that everyone has an accent and that no accent is inferior, the focus should be on intelligibility.

- Participant 16: "we all actually have accent, some think they don't, but they have actually. I just care to be understood"
- Participant 18: "even when they laugh I don't care, like you also have accent, and this people are small honestly, who cares man".

In conclusion regarding linguistic discrimination, it was revealed that it has a negative impact on students' willingness to communicate. Interestingly but expectedly, even the students who thrive under stress reported that stress as a result of linguistic discrimination is draining source of motivation and has more negative consequences than

positive. This aligns with Lev-Ari and Keysar's (2010) suggestion that linguistic discrimination will contribute to self-consciousness and anxiety in language learners, and with Ryan, Giles, and Hewstone (1988) who claimed that linguistic discrimination can have psychological effects on individuals, leading to feelings of inferiority, stress, and a sense of cultural alienation. The research findings also align with Page (2023), Dovchin (2020) and Rojas et al. (2016) on the harmful emotional and psychological impact of linguistic discrimination. The research found that there should be awareness of linguistic discrimination and its impact, and that knowledge that everyone has accent and that there is no inferior accent is essential to resolve this kind of anxiety.

- ❖ Gender-based variations in language learning anxiety among Bosnian and Arab students:

When it comes to gender, Bosnian students' anxiety is observed to be more linked to other factors such as teacher attitude, perfectionism, and fear of making mistakes. However, when it came to Arabs, females showed higher levels of anxiety depending on opinions of others and they showed higher levels of this anxiety having negative effects on their language learning such as the loss of willingness to participate, which can be the result of the Arabic culture where women are taught to be quiet and to focus on what others think of them, which resonate with findings by Al-Saraj's (2014) research on Saudi females EFL learning anxiety. While men showed higher levels of this anxiety resulting in motivation. Men reported more reacting to accent mocking as a joke while women reported that it has actually affected their confidence and motivation. However, it is important to say that Arabic women reported more instances of harmful linguistic discrimination. In short regarding gender, only Arabic students showed difference according to gender, with females being more likely to have negative reaction to anxiety.

Conclusions and implications

In conclusion, this research delved into the complex interplay between cultural expectations, linguistic discrimination, and English language learning anxiety within the distinct contexts of Bosnian and Arab communities. The findings shed light on the multifaceted dynamics that shape language learning outcomes in diverse cultural settings. The study uncovered variations in the idealization of standardized accents, with Bosnian learners lean-

ing towards conformity and Arabic learners embracing linguistic diversity.

Instances of linguistic discrimination were reported by both Bosnian and Arabic learners, highlighting the universal impact of discriminatory encounters on language learning anxiety. Cultural expectations played a crucial role in shaping how learners perceived and responded to these instances, demonstrating the need for a culturally sensitive framework in understanding and addressing language-related challenges.

Gender differences in anxiety responses were observed only among Arabic learners, which could be the result of the traditional Arabic culture. These differences underscore the intricate interplay between cultural expectations and societal gender norms, emphasizing the importance of considering gender dynamics in language learning research.

Coping mechanisms employed by learners, such as seeking social support and challenging discriminatory attitudes, reflect the nuanced ways in which individuals deal with language learning anxiety rooted in cultural expectations. However, cultural differences were found in the perception of the teacher's role in building a positive learning environment,

Educational implications of this research underscore the importance of cultural sensitivity training for educators, clear language policies, and inclusive teaching practices. Strategies to alleviate language learning anxiety should prioritize communication activities and language use within the classroom, with a particular emphasis on interactive games. Creating engaging and dynamic learning environments that cater to the diverse needs of students is essential for fostering positive language learning experiences. The research emphasizes the need for spreading awareness among teachers and students about linguistic discrimination and its impact.

The study's findings carry implications for educators, policymakers, and institutions aiming to create more inclusive language learning environments. Recognizing and addressing cultural differences in attitudes toward accents and languages is crucial for fostering positive learning experiences. Educators should be mindful of the impact of linguistic discrimination on students' motivation and communication willingness, employing strategies to alleviate its negative effects.

Awareness about linguistic discriminations should be spread between teachers and students. There should be awareness that no accent is inferior or superior to another and that intelligibility should be the focus. Teachers should be aware of their impact on students' language acquisition and the potential consequences of their biases and discrimination. Students should be more aware of how their attitude affects the learning process of other students, and of how their behavior affects the classroom environment.

The study suggests the importance of cultural sensitivity training for instructors to understand and respond successfully to the diverse needs of students. Additionally, establishing clear language policies and promoting the use of inclusive teaching practices can contribute to a more supportive and unbiased learning atmosphere.

Strategies to alleviate language learning anxiety should focus on communication activities and language use within the classroom. The incorporation of interactive games was highlighted as a particularly effective method to lower anxiety levels. These findings underscore the significance of creating engaging and dynamic learning environments that cater to the diverse needs of students.

Limitations and further research direction:

The study employed qualitative methods, using interviews to investigate the issue at depth, which limits the generalizability of findings. Incorporating quantitative measures and mixed-methods approaches could allow for a more comprehensive understanding of the relationships between cultural expectations, linguistic discrimination, and language learning anxiety. Further research might then investigate the generalizability of these findings in those two communities. Additionally, the research focused on Bosnian and Arab communities in Bosnia, potentially limiting the transferability of the findings to other cultural contexts. Future studies should consider investigating the matter in other communities and comparing the findings, especially bearing in mind there is a huge gap in the research investigating the relationship between linguistic discrimination and language learning anxiety. Finally, it is important to keep in mind that those are self-reported data, therefore, participants might have provided responses influenced by social desirability, particularly when discussing sensitive topics such as linguistic discrimination. Thus, further research might focus on observational methods to eliminate potential biases.

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Attachment

Interview questions:

Anxiety in Language Use and Classroom Settings:

1. Do you feel anxious when you have to read aloud?
2. Do you feel anxious when you have to collaborate with others, and does it differ depending on the nationality of the others in the group?
3. Do you feel anxious when you speak in front of the class, and why do you feel that way?
4. How afraid are you of making errors, and why do you think you are afraid/not afraid?
5. Does the level of anxiety differ depending on the teacher?

Learners' Beliefs:

6. How do you think this anxiety affects your memory?
7. Do you count yourself as a confident person in general?
8. Do you feel the need to be perfect, and is it a good or a bad thing in your opinion?
9. Do you have positive beliefs about your abilities to acquire a second language?

External Pressures:

10. Is this anxiety limited to English language classes?

11. Do your family and culture pressure you to perform well?
12. Is this anxiety the result of pressure from the teachers, parents, or yourself?

Teacher and Peer Reactions:

13. How does a teacher react when you make a mistake?
14. How do teachers react when they do not understand what you said (+ attitude)?
15. How do students react when they do not understand what you said (+ attitude)?
16. How do you react to those reactions?

Linguistic Discrimination and Cultural Perspectives:

17. How do you view Standard English?
18. How do you view the Bosnian English accent?
19. How do you view the Arabic English accent?
20. Do you believe that we should aim to be native-like, and why?
21. Have you ever felt that your language abilities or accent were judged by others? Can you provide examples?
22. Have you personally experienced linguistic discrimination in any language learning or communication settings?
23. How do you think linguistic discrimination, if present, has influenced your language learning experience?
24. Do you feel that Arabic and Bosnian students are treated differently and in what way?
25. Do you feel like there should be a different treatment?

Expectations and Triggers:

26. Do you feel that teachers pressure you toward being more native-like?

27. What specific aspects of language use or communication situations trigger anxiety for you?
28. Do you think there is a connection between your anxiety and potential experiences of linguistic discrimination?

Impact of Anxiety on Studying and Performance:

29. Does anxiety stop you from performing well in the classroom or while using English? (silencing, willingness to participate)
30. Does anxiety motivate you to do better, and in what way?
31. Does anxiety affect your studying or just your performance?
32. Do you procrastinate a lot?
33. In what ways do you feel that the social context, including discrimination, has affected your confidence in using a new language?
34. How has the potential for linguistic discrimination influenced your motivation to learn a new language?

Coping Strategies and Suggestions for Improvement:

35. What strategies do you use to cope with language learning anxiety or potential discrimination?
36. What do you believe would make your language learning experience less stressful?
37. What factors have affected the decrease in your foreign language anxiety?

ORIGINAL RESEARCH PAPER

SYNCHEDUCA: EDUKACIJSKI ALAT ZA MEHANIZME SINKRONIZACIJE U PROGRAMSKOM JEZIKU JAVA

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ABSTRACT

A strong ICT sector enables economic growth in almost every business sector. Therefore, the quality of education provided to software engineers is an extremely important factor in fostering innovation and having a positive impact on society. Industry applications present challenges of effectively implementing programs comprising interdependent tasks which compete for computational resources. The concepts of building optimal synchronization of program execution are challenging for many students studying software engineering.

This paper provides an overview of projects and guidelines for improving the education of software engineers in respect to learning synchronization mechanisms, particularly focusing on usage of synchronization mechanisms from the Java package java.util.concurrent. The paper introduces the tool SynchEduca, which uses a visual interface to introduce students to synchronization concepts in the Java programming language in a more interactive and enjoyable way, without overshadowing the synchronization concepts with implementation details.

Keywords: software engineer education, concurrent program synchronization, synchronization in Java environment

**MAP EDUCATION
AND HUMANITIES**

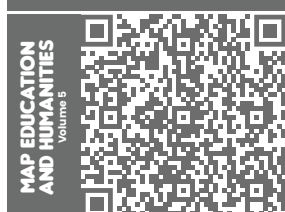
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1. Uvod

U današnjem brzo razvijajućem poslovnom okruženju, oslanjanje na robusna softverska rješenja za vođenje poslovnih procesa postalo je sveprisutno. Od automatizacije svakodnevnih zadataka do omogućavanja složene analize podataka, softver igra ključnu ulogu u osiguravanju operativne učinkovitosti i strateškog donošenja odluka. Tvrtke iz različitih sektora koriste softver za optimizaciju svojih radnih procesa, povećanje produktivnosti i održavanje konkurentne prednosti. Stoga, kvaliteta softvera izravno utječe na kvalitetu poslovnih operacija.

Oslanjanje na softver za kritične poslovne procese naglašava važnost kvalitete softvera. Kvalitetan softver osigurava pouzdanost, sigurnost i učinkovitost, što je ključno za održavanje povjerenja i zadovoljstva korisnika. Jednako je važna i kvaliteta podataka, budući da se poslovne odluke sve više temelje na analizi podataka. Loša kvaliteta podataka može dovesti do pogrešnih zaključaka, negativno utječući na strateško planiranje i operativno izvršenje. Stoga, tvrtke moraju ulagati u robusna softverska rješenja i stroge prakse upravljanja podacima kako bi zaštitile svoj operativni integritet i procese donošenja odluka.

Kvaliteta softvera inherentno je povezana s obrazovanjem i stručnošću inženjera koji ga razvijaju. Softverski inženjeri moraju posjedovati duboko razumijevanje programskih principa, struktura podataka, algoritama i arhitekture sustava. Osim toga, moraju biti vješti u upravljanju složenostima suvremenog razvoja softvera, uključujući sinkronizaciju paralelnih procesa, što je ključno za optimizaciju performansi i iskorištavanje resursa. Sposobnost implementacije učinkovitih mehanizama sinkronizacije posebno je izazovna, ali i ključna, za softverske inženjere koji razvijaju visokoperformansne aplikacije.

Poboljšanje obrazovanja softverskih inženjera stoga je imperativ za poticanje inovacija i održavanje visokih standarda kvalitete softvera koje zahtijevaju suvremene tvrtke. Tradicionalne metode poučavanja koncepta sinkronizacije često su nedostatne, jer mogu biti apstraktne i studentima teške za razumijevanje. Ovaj izazov dodatno se pogoršava nedostatkom interaktivnih i angažirajućih alata koji bi mogli učiniti učenje ovih pojmova pristupačnijim i intuitivnijim.

Kako bi se riješio ovaj obrazovni izazov, potrebni su inovativni alati i metodologije poučavanja. Jedno takvo rješenje je SynchEduca, alat osmišljen da studentima predstavi koncepte sinkronizacije putem vizualnog sučelja. SynchEduca ima za cilj učiniti učenje o sinkronizaciji interaktivnijim i zanimljivijim. Olakšanjem usvajanja znanja SynchEduca pomaže pripremiti sljedeću generaciju softverskih inženjera da zadovolje zahtjeve industrije. U nastavku rada opisan je alat SynchEduca, nakon čega slijedi pregled

2. Alat SynchEduca

SynchEduca je javna web aplikacija otvorenog koda (Popovic, 2018), stvorena za podučavanje novih generacija softverskih inženjera upotrebi mehanizama sinkronizacije. Budući da je programski jezik Java široko prisutan u industrijskoj praksi, te se koristi u mnogim poslovnim domenama za razvoj sustava koji obuhvaćaju skupove sinkroniziranih zadataka, SynchEduca se fokusira na mehanizme sinkronizacije dostupne u programskom jeziku Java prisutne unutar paketa `java.util.concurrent`. Mehanizmi sinkronizacije koje podržava alat SynchEduca uključuje `CyclicBarrier`, `CountDownLatch`, `Semaphore` i `Phaser` (Oracle Inc., 2024). Glavni cilj alata SynchEduca je pružiti okruženje za isprobavanje i igranje gdje studenti mogu eksperimentirati s mehanizmima sinkronizacije bez da budu preopterećeni složenošću implementacijske tehnologije. Alat SynchEduca je stvoren kao nastavak istraživanja opisanog u Popović i dr. (2018) i Popović (2011).

U jeziku Java, ali i u drugim jezicima, mnoge linije koda potrebne za izražavanje konstrukata kojima se postiže rješenje sinkronizacije mogu biti obeshrabrujuće za osobu koja tek počinje učiti o konkurentnom izvođenju zadataka. Čak i sam početak stvaranja novog programskog zadatka u obliku dretve u Java programskom jeziku predstavlja sasvim novi koncept izvođenja programske logike koji mnogi studenti smatraju izazovnim. Iz višegodišnjeg iskustva rada sa studentima, poteškoća nastaje pri mentalnom mapiranju tijeka izvršavanja koda. Shvaćanje da se stvara nova neovisna instanca izvršavanja koda s vlastitim programskim brojačem koji izvodi logiku definiranog segmenta koda dretve zna biti zbunjujuća. Potrebno je razumjeti temeljne mehanizme stvaranja procesa i dretvi, koji se oslanjaju na interakciju s jezgrom operacijskog sustava, da bi se razumjelo kako iz glavnog tijeka izvršavanja programa nastaje više tijekova izvrša-

vanja (Jakobović i dr., 2018; Prasad i dr., 2011; Hoare, 1974). Naredbe koje omogućuju takvo ponašanje koda nazivaju se sistemskim pozivima. Naredbe sistemskih poziva stupaju u interakciju s jezgrom operacijskog sustava i nisu intuitivne po svojoj sintaksi bez poznavanja gore navedenih složenosti.

Alat SynchEduca je stvoren u skladu sa smjernicama opisanim u Joint Task Force on Computing Curricula (2013) i savjetima u Scott (2009) kako se poduku ne bi započinjalo s teškim temama konkurentnosti tijekom izvođenja više-zadačnih programa. SynchEduca ublažava spomenute izazove oslanjajući se na vizualnu reprezentaciju tijeka naredbi unutar grafičkih prikaznika. Uz uklanjanje ove prve prepreke stvaranja više zadataka, SynchEduca otvara mogućnost za učenje sinkronizacije zadataka koji se konkurentno izvode pomoću specifičnih mehanizama paketa `java.util.concurrent` programskog jezika Java. S vizualnom reprezentacijom mehanizama iz Java programskog jezika, SynchEduca može privući pažnju čak i onih studenata koji nisu razumjeli sistemske pozive za stvaranje procesa ili niti.

SynchEduca koristi grafičko sučelje za ilustraciju sinkronizacijskih koncepata kao što su `CyclicBarrier`, `CountDownLatch`, `Phaser` i `Semaphore`. Pristup koji je SynchEduca koristi pomaže shvaćanju navedenih mehanizama sinkronizacije te omogućuje studentima da se fokusiraju na razumijevanje temeljnih principa rada mehanizma umjesto da se opterećuju tehničkim detaljima. Omogućujući studentima da vizualno konstruiraju i manipuliraju sinkronizacijskim scenarijima, SynchEduca potiče dublje razumijevanje kako ti mehanizmi funkcioniraju i koja je njihova važnost u razvoju softvera.

Interaktivna priroda alata također potiče aktivno učenje, za koje je dokazano da poboljšava zadržavanje pažnje i razumijevanje. Studenti mogu eksperimentirati s različitim sinkronizacijskim strategijama, promatrati njihove učinke u stvarnom vremenu i iterativno usavršavati svoje pristupe. Ovo praktično iskustvo neprocjenjivo je u pomaganju studentima da razviju praktične vještine potrebne za implementaciju učinkovite sinkronizacije u stvarnim aplikacijama.

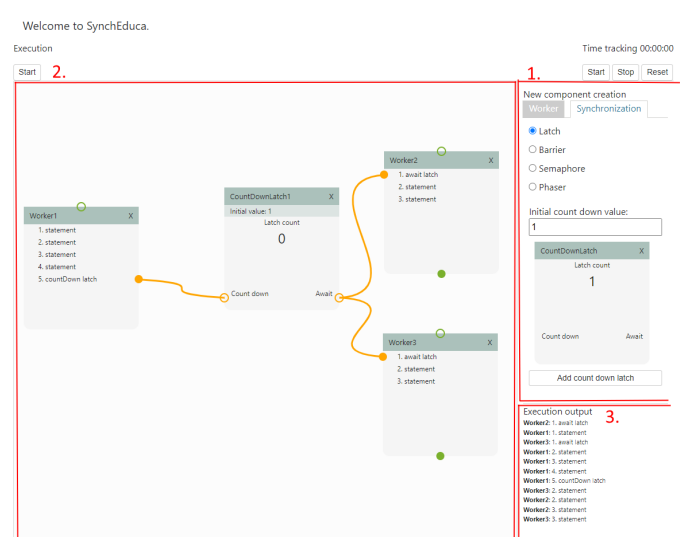
2.1 Interaktivna sinkronizacijska okolina

Razvojno okruženje alata SynchEduca zahtijeva malo ili nikakvo znanje o sinkronizaciji u Java programskom okruženju. Stvaranje konkurentnih

tijekova izvođenja u alatu SynchEduca temelji se na kreiranju i povezivanju bilo kojeg broja grafičkih prikaznika. Prikaznici (eng. widgets) se stvaraju pomoću sučelja desne bočne trake (1) i mogu se pozicionirati povlačenjem (eng. Drag-and-drop) radi preuređenja njihovog položaja u radnom prostoru (2). Slikom 1. prikazan je izgled razvojnog okruženja SynchEduca.

Grafička povezanost prikaznika izražena je putem točaka sučelja za interakciju među prikaznicima. Da li je povezivanje moguće ovisi o specifičnim tipovima sučelja prikaznika. Moguće je povezati samo odgovarajuća sučelja dvaju prikaznika ako su označena istom bojom. Prikaznici su podijeljeni u dvije skupine prema njihovoj ulozi u izvođenju tijeka rada, a izvođenje programske logike obuhvaćene prikaznicima pokreće se klikom na gumb Start. Ishod izvođenja naredbi moguće je pratiti pomoću sučelje koje se nalazi na dnu desne bočne trake (3).

Slika 1.
Razvojno okruženje alata SynchEduca.



Izvršni prikaznici sadrže popis naredbi koje se izvršavaju jedna za drugom (na imperativan način). Naredbe mogu biti obične naredbe ili bilo koja od podržanih sinkronizacijskih primitiva koje komuniciraju sa sinkronizacijskim prikaznicima. Sinkronizacijski primitivi komuniciraju sa specifičnim mehanizmom sinkronizacijskog prikaznika i, ovisno o stanju sinkronizacijskog mehanizma, mogu blokirati daljnje izvršavanje naredbi u radnom prikazniku. Složeniji kontrolni tokovi, poput petlji i uvjetnog grananja, još nisu podržani za izvršni prikaznik.

Sinkronizacijski prikaznici pružaju grafičko pojednostavljenje mehanizama sinkronizacije u programskom okruženju Java. Sinkronizacijski prikaznici ne sadrže naredbe. Umjesto toga, sadrže stanje koje se konfigurira tijekom stvaranja prikaznika. Prikaznik također sadrži sučelja (grafička) koja omogućuju promjenu stanja na temelju specifične logike mehanizma ugrađene u prikaznik. Na izloženo sučelje moguće je spojiti samo odgovarajući primitiv iz izvršnog prikaznika, te će izvođenje primitiva u izvršnom prikazniku izazvati promjenu stanja mehanizma u sinkronizacijskom prikazniku.

2.2 Sinkronizacija pomoću CountdownLatch mehanizma

SynchEduca nudi mehanizam koji pomaže interaktivnom učenju sinkronizacijskog mehanizma CountdownLatch iz java.util.concurrent paketa programskog jezika Java. U alatu SynchEduca mehanizam CountdownLatch je vizualna reprezentacija koja oponaša semantiku CountdownLatch mehanizma iz java.util.concurrent paketa dizajniranog za upravljanje ovisnostima između izvršitelja zadataka (dretvi). Mehanizam funkcionira definiranjem početnog broja koji predstavlja broj prethodećih zadataka koji trebaju dovršiti svoje izvođenje prije nego što započne izvođenje drugih zadataka. U takvom scenariju izvršitelji prethodećih zadataka po završetku izvođenja zadanih naredbi smanjuju navedeni broj CountdownLatch mehanizma pozivanjem metode *countDown*. Ostali izvršitelji mogu pozvati metodu *await* kako bi obustavili svoje izvođenje dok broj u CountdownLatch mehanizmu ne dosegne nulu, time osiguravajući da su svi potrebni zadaci dovršeni prije nego što se nastavi izvođenje njihove logike.

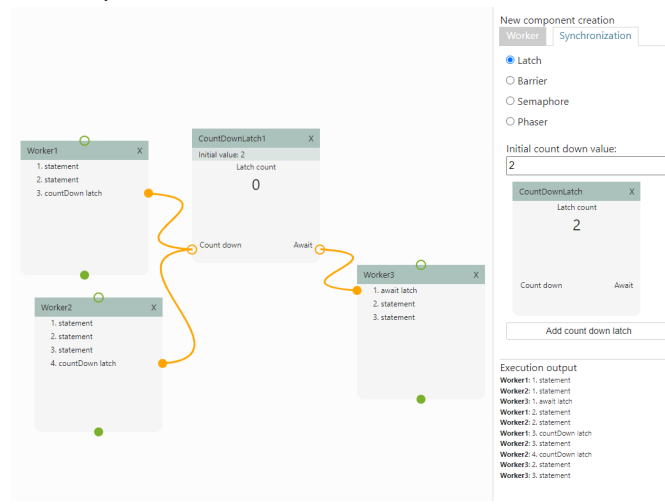
CountDownLatch mehanizam je posebno koristan kada je potrebno osigurati da više pripremni zadataci dovrše izvođenje prije nego što glavni zadatak nastavi s izvođenjem daljnjih operacija. Na primjer, moguće je imati više zadataka koji učitavaju podatke, a glavni zadatak treba obraditi sve učitane podatke. Korištenjem CountdownLatch mehanizma, glavni zadatak može čekati dok svi zadaci učitavanja podataka ne završe izvođenje, osiguravajući dostupnost podataka prije nego što obrada započne.

Slika 2. prikazuje izvođenje primjera sinkronizacijskog scenarija koristeći mehanizam CountdownLatch u alatu SynchEduca. U scenariju tri izvršitelja sinkroniziraju svoje tijekove rada. Izvršavanje naredbi izvršitelja Worker3 ne smije započe-

ti prije nego izvršitelji Worker1 i Worker2 izvrše svoje naredbe. Worker1 mora izvršiti dvije naredbe, a Worker2 mora izvršiti tri naredbe kako bi pripremili imaginarnu resursu za izvršitelja Worker3. Nakon što Worker1 i Worker2 izvrše naredbe koje pripremaju resurse za Worker3, svaki od njih izvršava naredbu *countDown*. *CountDownLatch1* mehanizam koji je inicijalno postavljen na vrijednost dva, bit će smanjen ovim naredbama i njegova će vrijednost dosegnuti nulu. Nakon što dosegne vrijednost nula, *CountDownLatch1* će odblokirati sve izvršitelje koji su bili blokirani u svom izvršavanju. U ovom slučaju, samo je Worker3 bio blokirani u svom izvršavanju, budući da je izvršio naredbu *await* prije nego što je vrijednost odbrojavanja smanjena na nulu. Kada je vrijednost odbrojavanja smanjena na nulu, Worker3 je nastavio izvršavanje svojih naredbi. Primijetite da vrijednost odbrojavanja ostaje nula nakon završetka ovog scenarija.

Slika 2.

Primjer korištenja mehanizma CountdownLatch u alatu SynchEduca.



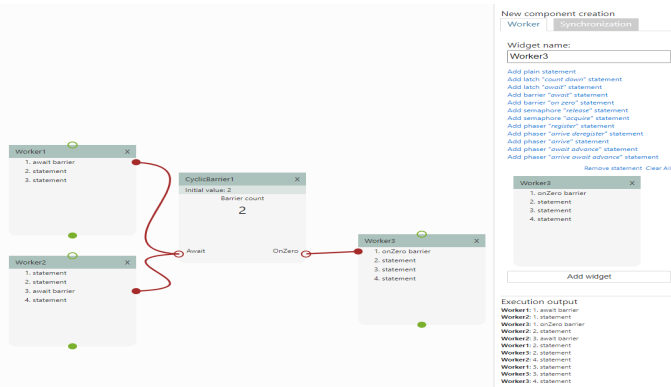
2.3 Sinkronizacija pomoću CyclicBarrier mehanizma

Alat SynchEduca nudi mehanizam koji pomaže u interaktivnom učenju sinkronizacijskog mehanizma CyclicBarrier iz paketa java.util.concurrent programskog jezika Java. U alatu SynchEduca mehanizam CyclicBarrier je vizualna reprezentacija koja nalikuje semantici mehanizma CyclicBarrier iz paketa java.util.concurrent. CyclicBarrier je dizajniran kako bi omogućio skupini izvršitelja da čekaju jedni druge kako bi svi zajedno stigli do zajedničke barijere. Kada svi sudionici dostignu ovu barijeru, mogu nastaviti sa svojim izvršavanjem. Za razliku od CountdownLatch, koji se koristi samo jednom,

CyclicBarrier se može ponovno koristiti, što ga čini pogodnim za scenarije u kojima je potrebno više puta čekati da grupa izvršitelja stigne do zajedničke faze izvođenja.

Slika 3.

Primjer korištenja mehanizma CyclicBarrier u alatu SynchEduca.



CyclicBarrier osigurava da svi izvršitelji dostignu određenu fazu izvođenja prije nego što bilo koji od njih nastavi dalje. Ovo je posebno korisno u iterativnim algoritmima gdje se izvršitelji trebaju sinkronizirati na više faza izvršavanja. Na primjer, u simulaciji ili računskom algoritmu gdje više radnika paralelno obrađuje podatke, može se zahtijevati da svaki radnik trebati doći do sinkronizacijske točke prije nego što započne sljedeću iteraciju. Korištenjem CyclicBarrier mehanizma osigurava se da svi radnici čekaju jedni druge dok ne završe trenutnu iteraciju prije nego što krenu na sljedeću. CyclicBarrier također može imati registriranu akciju barijere, a ona je poseban zadatak koji se izvršava kada svi radnici dosegnu točku barijere. Akcija barijere je korisna za izvođenje zadatka koja se mora izvršiti prije nego radnici nastave u sljedeću iteraciju izvršenja. Primjer akcije barijere može biti spajanje rezultata ili ažuriranje zajedničkih resursa.

Slika 3. prikazuje izvršavanje primjera sinkronizacijskog scenarija korištenjem CyclicBarrier mehanizma u SynchEduca. U scenariju, Worker1 i Worker2 sinkroniziraju svoje izvođenje izvršavanjem *await* naredbe. Nakon izvršenja naredbe, početna vrijednost brojača barijere se smanjuje i izvršitelji ostaju blokirani na toj naredbi dok brojač barijere ne dostigne nulu. Worker1 ostaje blokirano dok Worker2 ne izvrši *await* naredbu. Ovo rezultira time da brojač barijere dostigne vrijednost nula, koja resetira brojač na početnu vrijednost, oslobađa sve izvršitelje koji su bili blokirani *await* naredbom i izvršava zadatak koji je bio registriran za izvršenje *on-*

Zero barijernom naredbom. U ovom slučaju, vrijednost nula brojača barijere omogućuje izvršiteljima Worker1, Worker2 i Worker3 da nastave s izvršavanjem naredbi od točke gdje su bili blokirani.

2.4 Sinkronizacija pomoću Semaphore mehanizma

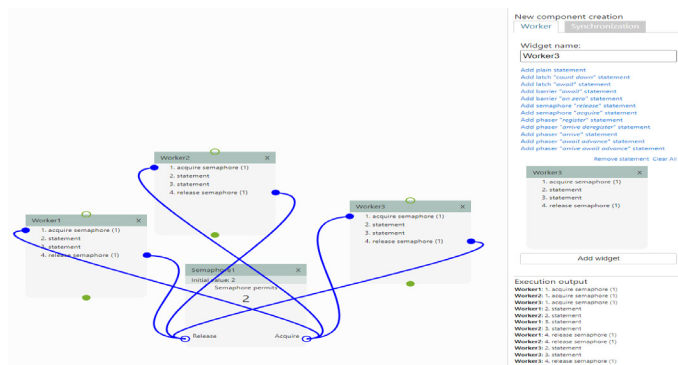
SynchEduca nudi mehanizam koji pomaže interaktivnom učenju sinkronizacijskog mehanizma Semaphore iz paketa `java.util.concurrent` programskog jezika Java. U alatu SynchEduca mehanizam Semaphore je vizualni prikaz koji oponaša semantiku mehanizma Semaphore iz paketa `java.util.concurrent`. Mehanizam funkcionira na način da održava skup dozvola koje radnici moraju pribaviti prije nego što mogu nastaviti s izvršavanjem zadatka. Kada radnik pribavi dozvolu, broj dostupnih dozvola se smanjuje. Kada radnik oslobodi dozvolu, broj dostupnih dozvola se povećava. Ako nema dostupnih dozvola, radnici koji pokušavaju pribaviti dozvolu bit će blokirani dok dozvola ne postane dostupna. Scenarij sinkronizacije primjenom mehanizma Semaphore moguće je zamišljati kao ulaz na popularan događaj pomoću skupu ulaznica. Postoji samo ograničen broj dostupnih ulaznica, i kada su sve zauzete, novi posjetitelji ne mogu ući dok netko ne napusti događaj i vrati ulaznicu.

U okruženju s više dretvi, Semaphore ograničava broj dretvi koje mogu istovremeno pristupiti određenom resursu, osiguravajući kontrolirani pristup i sprječavajući sukobe oko resursa. Primjer je server koji rukuje s više klijentskih veza. Kako bi se spriječilo preopterećenje i osigurala stabilna izvedba, server može koristiti Semaphore za ograničavanje broja istovremenih veza. Pri uspostavi novih veza pribavlja se dozvolu i dozvolu se oslobađa nakon zatvaranja veze, omogućujući uspostavljanje drugih veza. Drugi uobičajeni slučaj korištenja je upravljanje pristupom skupu resursa, poput veza s bazom podataka ili dretvi u dretvenom skupu.

Slika 4. prikazuje izvođenje primjera sinkronizacije koristeći mehanizam Semaphore u alatu SynchEduca. U scenariju, semafor je inicijalno postavljen da sadrži dvije dozvole. Sva tri radnika izvode isti niz naredbi. Radnici pokušavaju dobiti jednu dozvolu od semafora *Semaphore1*. Budući da postoje samo dvije dozvole, samo će dvojica radnika uspjeti, dok će jedan radnik ostati blokirano u pokušaju dobivanja dozvole. U ovom slučaju Worker3 nije dobio dozvolu za nastavak. Radnik ostaje blokirano dok jedan od radnika ne vrati dozvolu u semafor *Semaphore1*.

Slika 4.

Primjer korištenja mehanizma Semaphore u alatu SynchEduca.



2.5 Sinkronizacija pomoću Phaser mehanizma

Alat SynchEduca nudi mehanizam koji pomaže interaktivnom učenju mehanizma sinkronizacije Phaser iz paketa `java.util.concurrent` Java programskog jezika. U alatu SynchEduca mehanizam Phaser je vizualni prikaz koji nalikuje semantici mehanizma Phaser iz paketa `java.util.concurrent`. Phaser je napredna verzija tradicionalnih mehanizama sinkronizacije poput `CyclicBarrier` i `CountDownLatch`, nudeći veću fleksibilnost i kontrolu nad procesom sinkronizacije.

Osnovna svrha Phaser-a je omogućiti skupini radnika da se više puta međusobno čekaju kako bi došli do zajedničke točke sinkronizacije, poznate kao faza. Svaka faza predstavlja točku izvođenja u koju svi sudjelujući radnici moraju stići u izvršavanju svojih zadataka prije nego što ijedan od njih može nastaviti na sljedeću fazu. Ovo svojstvo čini mehanizam Phaser posebno korisnim za scenarije gdje grupa radnika treba zajedno raditi u više koraka ili etapa, s potrebom sinkronizacije na svakom koraku.

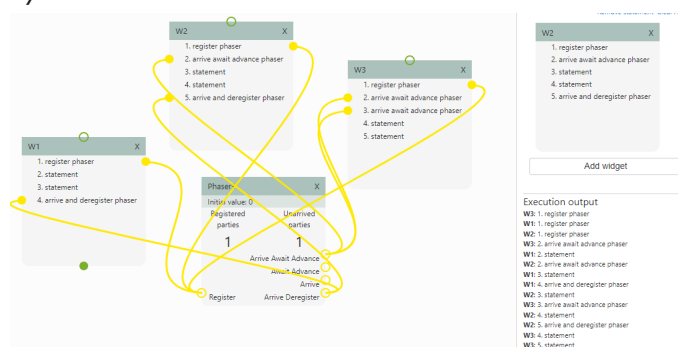
Rad mehanizma Phaser zasniva se na registriranju radnika koji sudjeluju u procesu sinkronizacije. Radnici se oslanjaju na operaciju *arrive* mehanizma Phaser pomoću koje označavaju da su došli do točke sinkronizacije, a zatim čekaju nastavak izvođenja kad nastupi sljedeća faza. Jednom kada svi registrirani sudionici stignu, Phaser prelazi na sljedeću fazu, omogućujući svim registriranim sudionicima da nastave svoje izvršavanje.

Jedna od ključnih značajki mehanizma Phaser je njegova sposobnost upravljanja dinamičkim promjenama u broju radnika koji sudjeluju u fazi sinkronizacije. Za razliku od mehanizma Cy-

clicBarrier, koji zahtijeva fiksni broj stranaka, Phaser dopušta sudionicima sinkronizacije da se dinamički registriraju i odjavljuju tijekom izvršavanja zadatka. To ga čini vrlo prilagodljivim za različita radna opterećenja i složene zahtjeve sinkronizacije.

Slika 5.

Primjer korištenja mehanizma Phaser u alatu SynchEduca.



Slika 5 prikazuje izvođenje primjera sinkronizacije koristeći mehanizam Phaser u alatu SynchEduca. Phaser vizualno prikazuje broj registriranih i nepristiglih stranaka. Primjer pokazuje kako se Phaser koristi za sinkronizaciju broja stranaka koje se dinamički uključuju i odjavljuju iz sinkronizacije. Scenarij počinje s Phaser-om koji je inicijalno postavljen na nula registriranih i nepristiglih stranaka. Radnici W1, W2 i W3 registriraju se za prvu fazu izvršavanja. Prva faza završava nakon što radnik W1 primjenom naredbe *arrive and deregister* pristizhe i odjavljuje se iz Phaser-a. Radnici W2 i W3 nastavljaju na drugu fazu. Druga faza završava nakon što radnik W2 primjenom naredbe *arrive and deregister* pristizhe i odjavljuje se iz Phaser-a. Radnik W3 sam nastavlja na treću fazu izvršavanja. U ovom slučaju, Phaser je primijenjen da međusobno isključujući istovremeno izvršavanje zadataka W1, W2 i W3. Kada se iz redoslijeda izvršavanja zanemare sinkronizacijski primitivi, uočava se da je Phaser-om u ovom primjeru nametnuto sekvencijalno izvršavanje naredbi iz zadataka W1 → W2 → W3.

3. Pozicioniranje alata SynchEduca u edukacijskoj primjeni

Kvaliteta obrazovanja softverskih inženjera ključni je čimbenik inovacija u ICT sektoru, što zauzvrat potiče gospodarski rast u različitim industrijama. Prepoznajući važnost obrazovanja softverskih inženjera, provedena su brojna istraživanja i razvijeni alati i metodologije usmjereni na poboljšanje obrazovnog iskustva studenata softverskog inžen-

jerstva, posebno u području konkurentnog programiranja i sinkronizacije.

3.1 Obrazovni alati i platforme

Razvijeno je nekoliko obrazovnih alata koji pomažu u podučavanju složenih koncepta softverskog inženjerstva. Na primjer, obrazovna okruženja poput Greenfoot (Henriksen & Kölling, 2004) i BlueJ (Kölling i dr., 2003) široko se koriste za podučavanje objektno orijentiranog programiranja putem vizualnih sučelja i interaktivnih simulacija. Alati poput Jeliot (Ben-Ari, 2002) i Alice (Cooper, 2000) nude slične vizualne i interaktivne pristupe, uglavnom usmjerene na uvodne tečajeve programiranja. Ti alati pomažu studentima da razumiju koncepte programiranja pružajući opipljiviju i vizualniju reprezentaciju apstraktnih ideja. Međutim, njihov fokus je prvenstveno na osnovnim vještinama programiranja. VisuAlgo (Halim, 2015) je više usmjeren na napredne programske algoritme i strukture podataka. Dok ove platforme uspješno angažiraju studente i poboljšavaju njihovo znanje o programskim algoritmima i strukturama podataka, one su nedostatne kada je riječ o podučavanju tema poput sinkronizacije i konkurentnog programiranja.

3.2 Podučavanje koncepta sinkronizacije

Podučavanje sinkronizacije i konkurentnog programiranja tradicionalno se oslanja na teorijske tečajeve i vježbe programiranja zasnovane na principu objašnjavanja primjenom ploče i krede. Klasični udžbenici, poput Gagne i dr. (2018), pružaju dubinska teorijska objašnjenja i primjere. Iako su klasični udžbenici kao resursi neprocjenjivi, mogu biti izazovni za studente koji ih usvajaju bez praktičnog iskustva.

Kroz literaturu, vizualizacija i interaktivno učenje su također primijenjeni u podučavanju sinkronizacije i konkurentnog programiranja. ThreadMentor (Carr i dr., 2003) je višepatformski pedagoški alat dizajniran da pojednostavi podučavanje i učenje višedretvenog programiranja. Pružajući sustav vizualizacije koji prikazuje interakcije dretvi i sinkronizacijske primitive, omogućuje studentima da razumiju ponašanje programskih dretvi. Jedan od pristupa viđenih u literaturi za pomoć studentima u savladavanju konkurentnog programiranja je vizualizacijski alat Convit (Järvinen i dr., 2005), Java aplet koji simulira konkurentne programe, omogućujući studentima da istražuju i mijenjaju sinkronizacijske naredbe u pseudokodnom okruženju.

3.3 Doprinosi alata SynchEduca

Alat SynchEduca je stvoren u skladu sa smjernicama opisanim u Joint Task Force on Computing Curricula (2013). Ističe se od ostalih edukacijskih alata posebnim fokusom na obrazovne izazove povezane s podučavanjem sinkronizacijskih koncepta iz Java paketa `java.util.concurrent`. Iako u smjernicama nije eksplicitno zadano programsko okruženje, često se u industriji primjenjuje Java programsko okruženje za izvođenje sinkronizacije više-zadačnih programa. U literaturi nije zabilježen rad koji stvaranjem interaktivnog web simulacijskog okruženja popularizira primjenu mehanizama iz Java paketa `java.util.concurrent`. Alat SynchEduca je prilagođen da pruži usredotočeno i interaktivno učenje sinkronizacije koristeći interaktivna vizualna sučelja koja omogućuju studentima eksperimentiranje s sinkronizacijskim primitivima poput `CyclicBarrier`, `CountDownLatch`, `Phaser` i `Semaphore`.

Pružajući angažirano, praktično iskustvo, SynchEduca pomaže studentima da shvate složene koncepte sinkronizacije bez da budu preplavljeni detaljima tehničke implementacije. Ovaj pristup ne samo da poboljšava razumijevanje, već i priprema studente da učinkovito primjenjuju te koncepte u stvarnim scenarijima razvoja softvera.

U usporedbi s tradicionalnim teorijskim pristupima i općim programskim alatima, SynchEduca nudi nekoliko prednosti:

- 1. Interaktivno učenje:** Studenti mogu manipulirati i promatrati učinke sinkronizacijskih mehanizama u stvarnom vremenu, potičući aktivno učenje i bolje zadržavanje.
- 2. Integracija usmjerena na kurikulum:** Alat je dizajniran da se besprijekorno integrira u tečajeve softverskog inženjerstva.
- 3. Dostupnost putem interneta:** SynchEduca je alat za edukaciju koji nema zahtjeva za instalacijom, te je dostupan iz preglednika, što ga čini lakšim za korištenje od strane studenata.
- 4. Opipljivo znanje uz apstrakciju implementacijske tehnologije:** SynchEduca smanjuje početnu barijeru znanja potrebnu za sinkronizaciju konkurentnih zadataka tako što ne zasjenjuje koncepte sinkronizacije s implementacijom u specifičnom programskom jeziku, a pruža konkretna

znanja primjene sinkronizacijskih mehanizama iz Java paketa `java.util.concurrent`.

5. Korištenje bez podrazumijevanog znanja:

S vizualnom reprezentacijom mehanizama iz Java programskog jezika, SynchEduca može privući pažnju čak i onih studenata koji nisu vješti u programskom jeziku Java, kao i onih studenata koji nisu razumjeli sistemске pozive za stvaranje procesa ili niti.

4. Zaključak

Kvaliteta softvera koji pokreće moderne poslovne procese uvelike ovisi o obrazovanju i vještinama softverskih inženjera. Poboljšanje ovog obrazovanja, posebno u složenim područjima poput sinkronizacije, ključno je za osiguranje da softverski inženjeri mogu razvijati kvalitetan i pouzdan softver. SynchEduca predstavlja značajan korak naprijed u tom pogledu, nudeći inovativan i učinkovit alat za podučavanje koncepta sinkronizacije. Čineći ove koncepte pristupačnijima i zanimljivijima, SynchEduca pomaže pripremiti sljedeće generacije softverskih inženjera da zadovolje zahtjeve industrije i potaknu buduće tehnološke napretke.

U ovom radu prikazan je pregled radova koji su posvećeni edukaciji softverskih inženjera. Poseban naglasak stavljen je na podučavanje upotrebe sinkronizacijskih mehanizama, a još specifičnije na upotrebu mehanizama sinkronizacije. Doprinos alata SynchEduca je pozicioniran u postojećoj edukacijskoj praksi s obzirom na specifičnost korištenja sinkronizacijskih mehanizama iz Java programskog paketa `java.util.concurrent`. Iako postoji mnogo alata i platformi dostupnih za podučavanje programiranja i osnovnih koncepta konkurencije, SynchEduca adresira specifičnu potrebu za interaktivnim pristupom igre pokušaja i pogrešaka u podučavanju sinkronizacije. Iskorištavajući vizualne i praktične metode učenja, SynchEduca poboljšava obrazovno iskustvo, osiguravajući da studenti softverskog inženjerstva budu dobro pripremljeni za suočavanje sa složenošću konkurentnog programiranja u svojim profesionalnim karijerama koristeći mehanizme iz Java paketa `java.util.concurrent`.

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ORIGINAL RESEARCH PAPER

THE IMPACT OF READING ON CHILDREN'S COGNITIVE AND LANGUAGE DEVELOPMENT

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ABSTRACT

Literature has always been regarded as one of the best methods available that can positively influence the development of young preschool and kindergarten children, but also older school kids. However, in order for it to make a significant impact, we need to make sure that the content that is being read is appropriate for the age of the children we are reading to. If young children are exposed to adult literature or such that they cannot understand at their language level, it does not help their language improvement and development. In order for literature to make a full impact on both language and cognitive development, we need to use appropriate materials to reach satisfying results, in this case, genres which have been specifically crafted for the language level of the targeted audience. The aim of this paper was to explore the impact of reading to children (specifically literature designed for their language level) by doing a replication study based on the paper done by Fekonja et al. (2007), analyse the results and compare the two classes on a language measurement scale in order to see the impact of literature on language development. The results showed a significant difference in language development between the two groups, favouring the experimental group, which reinforces the importance of incorporating systematic reading of children's literature into educational practices.

Keywords: literature, cognitive development, language development, children, story-telling, children's literature, young adult literature



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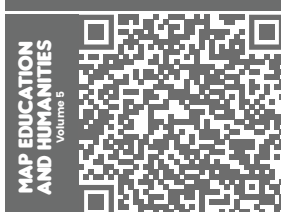
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1. Introduction

When we are born, we are often regarded under the metaphor of a “blank slate”, meaning that everything that we learn, gain and experience shapes us to evolve into the high functioning adults that we are today. On our way of development, there are different paths we can take in order to achieve the main goal, which is full mental and physical development. There are several ways in which this can be achieved, especially considering how impactful children are during their developmental period.

A special significance in this period of development is given to literature, specifically children's books. Studies done by Pellegrini (1980) and Browne (1999) have all proved the influence of these books on cognitive, language and social development, along with establishing academic skills, in children. This literature is also said to be used as the basis for children's moral thinking (Biskin & Hosskisson, 2014). In her book *“Developing Language and Literacy 3-8”*, Browne (1996) gives a review of the contributions of children's literature in different developmental fields, such as intellectual and social. She notes that well written children's books should have similar effects and opportunities like those of adult texts such as experiencing a wide range of emotions, the chance to learn something new and engage the reader's attention the entire time. For social development, children's books should give opportunities for them to analyse the nature of society, explore social relationships, give different views and opinions of the world and express different cultures, traditions and values. In the fields of intellectual and linguistic development they should make ideas accessible, have deeper meanings than what is shown, give new knowledge and understanding ideas, give them an opportunity to see different writing structures and writing styles and demonstrate the power of language.

In order for children to properly develop these functions, their teachers and parents need to understand the importance of their clear comprehension of the text, therefore, taking special care in giving them age appropriate texts they will be able to understand without any confusion. If we were to give children of the age of six a text that is meant for adults, while they are able to read through it, it is not likely they will be able to understand what is being talked about considering that it is meant for someone whose reading comprehension is on a higher level than their own. We need to be careful

with this because we will not be able to achieve much if the literature that children read is not appropriate.

Literacy, from the point of view of language development should be seen as a part of a continuum that starts at a very young age. This early development of literacy is the footing on which children keep building on with each new experience influenced by their previous ones. There is no specific age where this development starts, considering that children start establishing it even before their school life, impacted by the life around them such as the house and communities they live in. However, it is further worked on and is helped flourish by their work in schools and of course, books they are given to read.

The aim of this paper is to explore the effect of reading on childrens' language and cognitive development through comparison of two groups, one of which was exposed to reading while the other had continued their activities with no change in curriculum and completely skipping the exposure to reading. This paper is a replication study based on the study done by L. M. Umek, U. Fekonja, S. Kranjc and P. L. Musek in 2007, in which they in detail reviewed and tested how this could affect young learners.

2. Literature Review

After reading and studying different research papers on this specific topic, there are some conclusions that we can reach based on the previous research done on the topic.

Syntax, the study of arranging words into sentences, is one of the more convoluted topics of development when it comes to children. Palermo and Molfese (1972) were the first to discover that children do not have advanced command over these rules as it was once believed to be. This was further supported by Loban (1976) who expanded that the lack of these syntactic skills may cause further problems when it comes to children expressing themselves orally. Complicated structures of grammar and syntax may even lead to problems of reading comprehension. However et al. (1981) presented a four step cycle in developing syntax in children by using writing, oral activities and most of all, reading. The biggest part in the reading process is based on children's literature. Children are given books to read with target structures they want to focus on. Healey (1978) and Stotsky (1975)

were the first ones to recommend using children's literature in order to introduce them to complex structures. The further examination of this program has shown that many literature books, especially children's books, can be used to directly improve the syntactic comprehension in children. Fletcher and Reese (2005) emphasised that reading introduces kids to intricate sentence forms and various grammatical structures. By observing, children absorb the principles of constructing sentences, which enhances their capacity to create grammatically accurate sentences. This literature can play a very important role in acquiring the necessary skills for syntactic competence.

Children's literature, according to Hoskisson and Biskin (1979), can also be used for developing moral thinking in younger generations. When we use appropriate stories based on what group of kids we are examining, we can help them in analysis of the moral dilemmas that the characters are experiencing, then go on to discuss the choices that they had made and whether they would have done the same or something completely different. This encourages them to think about alternate solutions and not only helps them with their moral development, but also their problem solving skills. Their paper further went on, about how we can use these stories and books to help children develop based on Lawrence Kohlberg's stages of moral development. Many recent studies have supported this claim. Mol et al. (2018) propose that dialogic reading, with discussions about characters' motivations and emotions, supports children's prosocial behaviour which is an important aspect of moral development. Moreover, Yang et al. (2020) found that exposing children to prosocial themes in picture books was linked with higher levels of prosocial behaviours such as helping and sharing.

Kohlberg in his book *Child Psychology and Childhood Education* (1987) conducted a survey in which he expressed the links that literature has with language and thoughts, both philosophical and developmental. Along with him, both Vygotsky (1981) and Piaget (1984) stressed the importance of challenging the thoughts of children in order to improve them through literature. More recently, Dehaene et al. (2015) and Hutton et al. (2017) have emphasised that neuroimaging indicates that reading enhances neural connections linked to language processing, visual imagination, and conceptual understanding. These neural adaptations bolster overall cognitive functions and reasoning skills. Additionally, engaging in reading

tasks, particularly those with intricate storylines and thought-provoking questions, aids in the development of self-regulation in children. This entails their capability to regulate emotions, focus, and conduct themselves with reduced reliance on parental supervision (Dore et al., 2018).

Krashen (1981) was one of the most important figures to emphasise the importance of reading for language acquisition. He theorised that language acquisition occurs through exposure to comprehensible input just beyond the learner's current proficiency level, emphasising the significance of extensive reading. Similarly, the Natural Approach, developed by Krashen and Tracy Terrell (1983), stresses the importance of creating a language-rich environment in which learners will acquire the target language naturally. However, he highlighted reading in terms of exposure to input rather than being active participants, which is something he was criticised for.

However, according to Dillon (1988), we should try and include the children in the discussions as much as possible in order to let them develop their own thoughts and opinions on what they have read. Through a study that he did in an American senior high school, during lessons which were based on a book that was read in class, the teacher was the one that ended up asking the most questions throughout the class. In total, he found that teachers ask about 80 questions an hour but only 11 students asked questions in the span of 27 lessons. Tizard and Hughes (1984) ended up finding the same pattern in nursery schools, and linked them to the previously mentioned Kohlberg's stages of moral development.

While school setting is important when it comes to development, home setting proved to be another key element. Duskin Feldman et al. (2001) have conducted research in which they followed children whose caregivers read to them and those who did not. They concluded that the frequency and the manner they are reading to the child has a positive influence on them, including their language competence and reading. Those children who were read to by their parents also learn to read early. This type of reading out loud allows for easier establishment of social interaction, emotional intimacy and the ability to use language in different situations. Dombey (1983) has also found that those parents who had read to their children helped them with their understanding of different words along with help in differentiation in different intonations

and tones of words. He also went on to emphasise the importance of reading for the metalinguistic development in younger generations. Likewise, Senechal and LeFevre (2014) five-year longitudinal study supports those findings, with shared reading in the home having a significant positive impact on children's vocabulary, decoding skills, and overall reading ability over time.

Types of literature for children and their history

When it comes to the types of literature that we should expose children to, children's and young adult literature are the two genres that have been used the most, considering that they were specifically made for children and with their proficiency, literacy and development in mind. There is a lot of debate and talk among scholars on the difference between these two terms. In order to proceed with the rest of the research, we should first define these two terms and highlight the most important differences in them.

Grenby (2014) in his book "The origins of children's literature" says that the first modern children's book appeared in mid-18th-century England. Influenced by John Locke and his theories of childhood innocence was what inspired the developing middle-class to create the concept of childhood. Grenby went further on to explain that the publishers of those times began to create books designed for the pleasure of younger readers as their specific audience. One of these authors was Mary Cooper, who wrote what is today considered the first known nursery rhyme collection under the name *Tommy Thumb's Pretty Song Book*.

A *Little Pretty Pocket-Book* is the book that is widely considered as the very first modern children's book. It was the first publication aimed for the enjoyment of younger readers, and it included traits that would appeal to them such as rhymes, pictures and even interactive games to get them involved in the reading. It was small, smaller than the normal sized books meant for adults and were coloured with bright, outstanding colours in order to appeal to children. Something like that was quite new in the publishing industry, started by the publishing company Newbery, which were the beginning of toy books which became popular in the next century (Lundin, 1994).

Jean-Jacques Rousseau was another researcher who influenced the development of this

genre. He insisted that this genre should develop naturally, and this idea to appeal to the things that children enjoy widely spread in writers. The Brothers Grimm also rose to fame in Germany, as they published traditional fairy tales. Because of these, more modern and realistic children's literature books were looked down upon, which urged the spread of the more traditional stories. Hans Christian Andersen is also one of the pioneers of children's literature, who travelled through Europe and gathered many, well-known fairy tales and created his own, new stories under the genre.

Now, when we mention young adult literature, many people are quite confused on what this term represents and what it encompasses. This genre of literature was created for audiences from twelve to eighteen years of age, they focus on youth and they were developed to make the transition from children's to adult literature less severe. There has been quite some confusion on what fits this label and this confusion has led teachers and parents alike to consider young adult literature nothing more but cheap, penny novels that you can find in grocery stores. Another main point of young adult literature is to get adolescent readers into reading with topics that relate to them such as first love, relationships and problems regarding identity. One of the first books under this genre is *The Catcher in The Rye* by Salinger, J. D. (1991), which is considered the pioneer of the genre to this day.

Storytelling

A very important factor in all of these books, one that they all share when analysed in more detail, is storytelling. The reason why storytelling is so important when talking about children's literature is how much it helps the younger readers, who are still not as developed as adults, to understand things in a clearer way. Not only that, it makes the words on the paper come alive, therefore making it more interesting than if we were to present them with facts. It appeals to their different preferences towards learning and even their personalities, as not all children are the same as most adults like to think. The act of storytelling is able to ensure that even the shyest students who do not talk too much are involved in what is happening.

There are two ways in which we can express storytelling and those are with narration or pictured sequences of events that we show to the audience, in this case children. It is believed by some researchers that this is one of the vital factors that

will allow children to draw their own conclusions and messages, understand different situations and sequence of events and help them with the mental image of the story they have in their heads. They should be allowed to create stories and tell them to the class in order to work on their language and cognitive growth. The act of storytelling is influenced by the books children read at this time, as it gives them ideas for their own stories and tales which will then improve their development and imagination. Fein (1995) said that the stories they create at first will be simple, not supported by any existing rules for story writing, nor will they have a specific message, problem that has to be solved, the goal the characters have to reach or even the resolution at the end. At first, their stories will only consist of a series of events followed by another and so on. He went on to say that their storytelling takes a turn when they reach the age of four, which is when they begin to include information which is deemed necessary for their stories to be considered literary works. This is the age where they go through most of their development and begin to understand and accept concepts which may have been arbitrary or unknown to them. They start to think about different problems their characters may face and how they will solve those problems. The character's thoughts, emotions and actions also become important and rather than the story just being sequence of events told in a specific order without any stakes or problems arising, it will start turning into a solid piece of work that has its distinct problems, goals, resolutions and message that it wants to get across to the reader.

Considering this is a very formative age, it is where children's and young adult literature is most important. It is crucial for parents and most of all, teachers, especially those in kindergarten, to have regular and pre-planned storytelling and reading hours where they will devote themselves to introducing their students to selected literature. Of course, they have to make sure that the books they have chosen are age appropriate and match the level of competence they have at that point in time. The literature chosen should also have an impact on the general development of their language competence and storytelling analysis.

3. Method

Participants

This study included 30 children aged five to seven years. They are divided into two classes

of students, one of which will be the experimental group (exposed to a programmed and systematic reading of children's books) and the other will be the controlled group (their activities were carried out as usual without much, or any difference to the official curriculum). The structure of the sample is as follows:

Table 1.
Sample structure

	Children's average age	Number of children (by gender)
Experimental group	5;7 years	14 (9 boys, 5 girls)
Controlled group	5;7 years	16 (9 boys, 7 girls)

The children in the sample come from the same private primary school institution, and all of them are attending first grade. The school follows the Cambridge Primary English Curriculum and all instruction is done in English, despite the students knowing and speaking one native language. Most of the children have started school with either some prior knowledge of English, while some were still unfamiliar with it. The books read to them were in English. At the point of this study, despite some children not being able to fully express themselves in English, all of them were able to understand it without hindrance.

Research questions

The study was driven by three main research questions, serving as a roadmap for the investigation.

R1: Does exposure to programmed and systematic reading of age-appropriate literature influence language development in young children?

R2: How does exposure to programmed and systematic reading of age-appropriate literature influence language development in young children?

R3: To what extent does the introduction of age-appropriate literature affect children's ability to comprehend and retell stories?

Materials and instruments

To test the children's language development, the Junior Oral Language Screening Tool was used (Britain, Hunt, & Keany, 2003). The scale consists of three parts and measures development in vocabulary, pragmatics (social language), and grammar. However, the main focus is on expressive language while receptive language can be evident from the way specific questions are answered. Speech sounds are not included in this tool.

Along with this, an unstandardized test of retelling a story was used in order to understand the language comprehension of the students. The story that was used in the test was Rapunzel in production (narrated and animated) of Little Fox Stories (2023) on their official YouTube Channel. The focus of this test was the number of sentences the children used, how well they recalled the events of the story and the structural complexity of the sentences they used. The structural complexity refers to specifics such as retelling the events in chronological order, using time and space specifications, relations between the characters and causal relations.

For the experimental group, the teacher used six different fairytale stories in the form of a video, with animated scenes and narrator. Along with this, four physical books were read to the students over the span of three months.

4. Procedure

In the experimental group, two times a week the children were shown a video of the fairytale, which would span for the next week or two due to the length of the video. Each video was separated into chapters. After each chapter, the teacher would pause the video and ask children various questions about what they had just watched, ranging from recalling the events of the story to drawing their own conclusions or offering their own opinions about the work. All other activities also continued as usual. This systematic reading of books continued for three months, two times a week. In the control group, the teacher worked strictly by the curriculum and there were no extra reading activities.

Data Collection and Analysis

The data collection for the study was conducted in two separate ways, quantitative and qualitative. The quantitative data collection was done through a language screening tool. At the end of the semester, both the experimental and

control groups were tested based on the Junior Oral Language Screening Tool. Each child was individually taken and asked questions presented in the screening tool. The screening tool tested children in vocabulary, social language and grammar. For each correct answer, the child was awarded one point with fifty-one points in total.

For the second qualitative part, the students were all individually shown a short story, similar to the ones that they have seen, heard and watched during their entire semester in the case of the experimental group. In the case of the control group, this was the first time they were exposed to such reading material. After the children were finished, they were asked comprehension questions based on what they had seen in order to recall certain events, important details and characters from the story. These questions were administered orally and the students were audiotapes, after which the tapes were individually analysed. Special attention was paid to the recall of events, the language and pragmatics the students used to describe the event and the complexity of sentences used.

After collection, the quantitative data was analysed using SPSS programs of descriptive analysis and individual T-test, while qualitative data was transcribed from the aforementioned audiotapes and then analysed by comparing the results of both control and experimental groups.

5. Results

Quantitative analysis

The results gathered from the Junior Oral Language Screening Tool showed a difference between the experimental and control group and their overall test scores.

In order to analyse the results from both groups, an independent sample t-test was used in order to determine whether or not there is a significant difference between the results of the experimental and control groups. The results were coded for each student, with the experimental group being coded as '1' while the control group was coded as '2'.

Through the table of the group statistics, we can already see a difference between the two groups. The average test score for the experimental group was 39.2143, while the average test score for the control group was 25.000. The standard deviation of the experimental group was 8.45057,

while for the control group it was 9.41630. Lastly, the variation of the sample mean by chance was 2.25851 in the experimental group, but 2.35407 in the control group.

Table 2.

Group statistics of the experimental and control group

GROUP (1=Experimental, 2=Control)	N	Mean	Std. Deviation	Std. Error Mean
Experimental	14	39.2143	8.45057	2.25851
Control	16	25.0000	9.41630	2.35407

Table 3.

Independent Sample T-test for Experimental and Control Group

	F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Mean Difference
Equal variances assumed	.095	.760	4.325	28	<.001	<.001	14.21429	3.28665
Equal variances not assumed			4.357	27.975	<.001	<.001	14.21429	3.28665

When it comes to the independent sample t-test which was done through SPSS by putting all the student's scores and then analysed, first we can look at the Levene's Test for Equality of Variances. Because the significance level is 0.760, which is a greater value than 0.05, the null hypothesis of equal variances is not rejected and therefore we assume that the variances are equal between the groups and we will look at the results of the first row in the table.

The analysis of the independent sample t-test revealed that there is a statistically significant difference in the test scores between the two groups. In both instances, the two-tailed p-value is <.001 and since this value is less than the alpha level of 0.05, the null hypothesis is rejected once again and we conclude that the difference in the test scores between the two groups is statistically significant. Along with this, the mean difference between the groups was 14.21429 points.

Further analysis of the results showed that the experimental group demonstrated a high frequency of correct responses for questions regarding vocabulary and pragmatics (social

language. However, the percentage of correct responses for grammar questions ranged from 50% to 100% with mean scores between 1 and 1.5.

On the other hand, while the control group did demonstrate some percentages of correct responses, specifically regarding questions of pragmatics (social language), their percentages were lower than those of the experimental group. Overall, the control group performs less strongly than the experimental group on the JOLST, with lower mean scores and greater variability.

Additionally, the students were asked to name six animals out of memory, the only students that were not able to name all six were from the controlled group.

Qualitative analysis

To support the quantitative results, a qualitative analysis was also done with the children, in which they were asked to give their own interpretations and thoughts on the story. One example was selected from each of the two groups.

Experimental Group

T: *What happened with Rapunzel in the story?*

C: *Well, first she was a little girl. Her mom was sick so her dad got the... the... plant. I forgot what it is called.*

T: *It is like her name.*

C: *Rapunzel! It was from the witch and the witch got mad. She want to steal Rapunzel when she gets big. So, she takes her away from her parents when she gets big. But Rapunzel brings Prickle with her.*

T: *Who is Prickle?*

C: He was a bird but then the witch got mad and turned him into a hedgehog. But he is Rapunzel friend. The witch makes Rapunzel work for her. And she can't sing because the witch don't let her. And she can't learn magic. She can only make potions for the witch. And then... then they sell them at the market. Because the king... the king nema kose. Kako se to kaze?

T: The king has no hair, he is bald.

C: Yes, he has no hair! He buys potion to make his hair long.

T: What else happens?

C: Rapunzel spills the potion on herself. Her hair grows long, long and the witch get mad. She takes her to a big tower. Rapunzel can't leave and she is alone in the tower. But she mix potions for witch so she can sell at the market. And the prince, the prince is looking for Rapunzel. He hear her song in the tower! He wants to be Rapunzel friend. And he... he go up Rapunzel hair and they be friends. But witch! Witch get mad and she throw prince out of the tower and cut Rapunzel hair!

T: Oh, wow, that sounds awful! What happened after that?

C: Prickle turn back to bird and he help Rapunzel. He picked the hair and give it to her and she... she... (at this point, the child is showing tying motions with their hands) I forgot...

T: She tied...

C: She tied the hair! Together and then... then... she climb down and run away. She find the prince and he is hurt here (pointing at the side of their head) but his friend take them to the castle. The prince was sleeping because it hurt and Rapunzel sing for him. And then... he wake up! And him and Rapunzel and her mom and dad lived together, in the big castle and witch is gone.

The child from the experimental group demonstrated a detailed and coherent understanding of the story. They not only recalled key events but also provided additional details, such as the king's baldness and the potion-selling subplot. They required minimal support from the

teacher and were able to go into detail about the events of the story. The events that they described were in logical and chronological order with little to no variations. The narrative was coherent and well-organised, with a distinct beginning (Rapunzel's childhood and meeting the witch), a middle (Rapunzel's life in the tower and her work) and an end (escape from the tower and Rapunzel's happy ending).

They also displayed high engagement with the material by including smaller, less significant details such as Prickle and his transformation from a bird into a hedgehog, visiting the market and how Rapunzel helped the prince recover. This shows that they were able to grasp the source material fully, and understand it in its entirety, both the more significant and minute details.

The vocabulary usage is vast, varied and specific to the story which they have been told and they do not have a hard time remembering or using that specific vocabulary. The vocabulary is also quite advanced for their age, such as "bald", "tower" or "potions", however the child showed no problem in understanding those terms. They were used in order to provide specific information about the story. The child's use of descriptive language is also quite significant as they were able to emphasise the significance of some details with the words that they used, such as " Her hair grows long, long".

The child from the experimental group also shows usage of complex sentences and structures, showing further understanding of both the language and source material. In phrases such as "king nema kose" we see that despite not being able to remember the word which is used for somebody not having hair, the child is able to convey information they want to say and appropriately ask for help despite struggling with languages and displaying a good problem-solving ability. Rather than getting discouraged of not being able to remember a word in English, they instead asked in the language that was known to them and then easily followed and understood the teacher's help, continuing their recalling of the story with no problems. Despite, English not being their first language, they showed great use of grammar and tenses, occasionally making mistakes but with no change in clarity and understanding of the story telling.

Control Group

T: So, who is Rapunzel?

C: A girl.

T: And what is special about her?

C: She has long hair.

T: What else?

C: Her hair is very long. The witch steal her from her parents.

T: Why did she do that?

C: She... she take her... I don't remember.

T: That's okay. What else happens?

C: She goes to a tower with the witch.

T: Anything else? What happens in the tower and the witch? Can Rapunzel leave the tower?

C: No. She make potions.

T: Anything else? Was anyone there with her?

C: No. Wait... There was a... a mouse!

T: Was it a mouse? Or something else?

C: I... I don't know.

T: That's okay! Is there anything else you remember?

C: (shaking head 'no')

the entire time in order to try and think about some things that happened in the story. The structure of the recount was also less organised and much more fragmented, with a lack of a distinct beginning, middle and end. Key elements were missing and they struggled with the progression of the story.

The engagement of the child from the control group was very limited, shown by their inability to provide additional information on the details of the story. The child struggled to articulate what happened and often got discouraged or disconnected from the conversation, which led to the teacher having to prompt them to answer. This shows a lower engagement with the source material in comparison to the experimental group.

The vocabulary of the student from the control group was very limited in comparison to that of the experimental group. They used three to four terms which related to the story (girl, tower, long hair) and stuck to those, repeating them often with little to no variation. It also lacked specificity and detail about the character or events of the story. It was very much a broad representation of what had happened in the story. The descriptive language is minimal, with phrases which are very simple such as "she has long hair."

When it comes to grammar and the syntactic structure of the sentences the child from the control group used, they were very simple sentences with a lot of sentence fragments or incomplete sentences e.g. A girl. Similarly to the experimental group, the child also struggled with verb tenses, however at a much higher rate than the child from the experimental group. The use of pronouns and articles was also very minimal which furthermore simplified the sentences that the child worked with.

The overall narrative of the story was less coherent than the experimental group, with unconnected fragments and missing parts of the story. There was also no structure to the way that the student retold the story. Prompting from the teacher was needed, however even then, the child answered with minimal detail and engagement, without expanding the story narrative or even trying to do so by asking questions. The communication between the child and the teacher was also more passive, in the sense that the student had less indication of asking for help or even clarification when it came to struggling in certain parts. They simply stated that they did not understand or know

something, without further engagement or trying to seek answers.

To sum it up, the child from the control group faced challenges in recalling and articulating the storyline. Their responses were brief and lacked chronological order. The child struggled to recall specific events and details, often requiring prompts.

6. Discussion

The analysis of results indicates a significant difference in language development between the two groups, favouring the experimental group. Both sets of data analysis, qualitative and quantitative, show significant improvement in the case of the experimental group. In the case of the control group, the results were very much negative and showed little to no improvement in children's literacy skills among others. In this section, we will discuss the findings, their implications, and potential avenues for future research.

The quantitative results show a significant difference in language development between the experimental and controlled groups in the areas of vocabulary, grammar and pragmatics. The analysis of the Junior Oral Language Screening Tests, showed a clear difference between these two groups, which was then further proved and analysed through the independent samples t-test. The overall group statistics show that the experimental group scored significantly higher in these areas than the control group. The experimental group, exposed to systematic reading of children's books, demonstrated higher percentages of correct responses across most questions compared to the controlled group. This can be linked to the earlier mentioned Krashen's (1981) theory of comprehensible input which was focused on the significance of extensive reading and how exposure to a language-rich environment can help further a child's language development.

Furthermore, these results can be used in order to answer the first proposed research question on whether or not exposure to programmed and systematic reading of age-appropriate literature influences language development in young children. We can see through the quantitative results that there is a significant influence and correlation between planned systematic readings to young children, as the experimental group has notable improvement in relation to the control group, in all the areas of vocabulary, grammar and

pragmatics, which is then further supported with the results from the qualitative analysis.

The qualitative analysis of narrative responses provides further insights into the impact of systematic reading of age-appropriate literature. The results are in accordance with the findings of both Dehaene et al. (2015) and Hutton et al. (2017) which commented on the neural connections which are enhanced through reading and how it improves all language processing, visual imagination, and conceptual understanding. Through the analysis of the qualitative results, we can see that the experimental group has been able to significantly better recall the events of the story they have read along with being able to tell certain details, tell it in a chronological order but also use complex vocabulary and sentence structures within the retelling. These results can also be related to the Fein (1995) study of storytelling and how children as they grow older are able to understand and accept new concepts, think about certain problems about the characters and are able to tell a story in specific order, not a sequence of events. The experimental group supports this narrative, as they were able to thoroughly recall the story and tell it to the teacher in a series of chronological events. They also showed awareness to the problems that the characters faced such as the princess in the story spilling the potion and her hair growing long, or the father stealing the flower which was needed for the mother to get better.

On the other hand, the storytelling is very much lacking in the case of the control group, and in case of Fein's (1995) storytelling theory, they are still not at the proper level where they are aware of certain structures, despite being of age to do so. Their narrative was incoherent and fragmented, unable to recall specific events in chronological order or even provide enough details to form a comprehensive story retelling.

We can use these results in order to answer the second research question of how this exposure influences the language development of young children. Through the results we can state that their language development in all three areas of grammar, vocabulary and pragmatics is supported by both quantitative and qualitative results. In the case of vocabulary, through the quantitative results we can see that the experimental group had the highest correct percentage rate, while the control group was significantly lower. Through the qualitative analysis, we can see that the child from

the experimental group was able to use specific and complex vocabulary in relation to the context of the story, with little to no repetition. They also used descriptive language with clear and detailed descriptions of both the story, characters and the events. On the other hand, the control group was not as successful with their usage of vocabulary being rather repetitive and simple, with common terms often used. There was little to no variety in the language that was used, along with specificity which accounted for a very broad and not detailed recollection of the story which felt lacklustre, especially when compared to the results of the experimental group.

When it comes to grammar, the child from the experimental group used syntactic structures which were more complex, along with showing an understanding of the story. They were able to recall details and explain them fully. Despite making some mistakes in the grammar tenses, this did not affect the clarity of storytelling and everything was easily understandable. The control group was not as successful as they used less complicated and complex sentences, with one or two words and simply stated what they remembered from the story. Unlike the experimental group, which retold the story in engaging details, the control group retold the story in sequences without connecting the events to each other. They also lacked any significant details and were not able to recall any minor details within the story.

The comparison of the pragmatics also showed significant engagement from the experimental group, who asked clarifying questions and despite some language barriers, sought help from the teacher in order to fill in the gaps in their knowledge. The control group showed less engagement, with no questions for clarification or asking for help to further their retelling of the story, but rather simply stating they did not understand or not know a certain event or order of events. This supports the emphasis of Fletcher and Reese (2005), which stated that reading introduces kids to intricate sentence forms and various grammatical structures which is shown in both the examples of the experimental and control groups.

The last research question of to what extent does the introduction of age-appropriate literature affect children's ability to comprehend and retell stories can also be answered through the previous analysed results. There is a significant difference in how the experimental group recalled the events

of the story and how the control group did. As mentioned previously, the experimental group was able to recall specific details in complex structures and sentences with continuous engagement with the teacher, while the control group was only able to give simple and not complex sentences, with little to no reference to specific detail or vocabulary. This suggests that a structured and consistent reading positively influences language development in young children, which also supports the research's hypothesis that the exposure to programmed and systematic reading influences language development in young children in a significant way.

The study revealed challenges in recall and articulation within the control group which furthermore shows support to the research hypothesis that exposure to age-appropriate literature affects children's ability to comprehend and retell stories to a great extent. This highlights the potential limitations of traditional curriculum-based approaches that may not adequately prioritise language development through literature. It suggests a need for curriculum adjustments to include dedicated time for systematic reading and comprehension activities.

The findings align with the replicated study by Fekonja et al. (2007) that emphasises the role of literature in language development and cognitive growth. The positive outcomes observed in the experimental group suggest that educators and parents should prioritise incorporating age-appropriate literature into children's learning environments.

Conclusion

This research investigates how reading, specifically children's books, plays a crucial role in shaping the minds of young learners and affects their cognitive and language development. The paper aimed to contribute to this understanding through a replication study of Fekonja et al. (2007), comparing two groups of children—one exposed to programmed reading of age-appropriate literature and the other continuing curriculum-based activities without this exposure. The research questions and hypotheses guided our exploration into the influence of literature on language development, comprehension, and storytelling abilities.

Our research design incorporated a sample of 30 children aged five to seven, divided into an

experimental group (exposed to a programmed and systematic reading of children's books) and a controlled group (their activities were carried out as usual without much, or any difference to the official curriculum). The Junior Oral Language Screening Tool and a story retelling task were employed for quantitative analysis, revealing a statistically significant difference favouring the experimental group. Additionally, qualitative analysis of narrative responses highlighted the deep understanding and logical coherence revealed by the experimental group compared to the controlled group. The findings suggest that a structured and systematic approach to reading age-appropriate literature significantly influences language development in young children. The experimental group, exposed to regular storytelling sessions and curated reading materials, exhibited not only enhanced language skills but also a deeper comprehension of narrative elements.

In conclusion, this study reinforces the importance of incorporating literature into the educational landscape, with a particular emphasis on age-appropriate materials. The positive results observed in the experimental group underline the potential for literature, presented in a structured manner, to serve as a facilitator for cognitive and language development of young learners. Future research could explore the long-term effects of such interventions and further explain the specific aspects of literature that contribute most significantly to children's developmental milestones. Ultimately, recognizing the power of literature in shaping young minds is essential for educators, parents, and policymakers seeking to foster holistic development in the next generation.

Implications

The study's results highlight the importance of integrating systematic reading of children's literature into educational practices, especially in early childhood education. Teachers and parents should be encouraged to implement designed reading programs that expose children to age-appropriate literature, fostering not only language development but also narrative comprehension skills.

Future Research Directions

While this study provides valuable insights, there are suggestions for future research. Long-term studies could explore the continued effects

of systematic reading programs on language development throughout different stages of childhood. Additionally, investigations into the impact of various genres of children's literature, including young adult literature, could contribute to a more comprehensive understanding of the subject.

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REVIEW PAPER

SEEDS OF MODERN EDUCATION: AMERICAN INFLUENCE IN TURKEY

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ABSTRACT

American private foundations invested huge financial resources in institutions and individuals in the Republic of Turkey in the process of westernization of the country. Due to the war-torn state and poor socio-economic situation, the modernization process in Turkey implied comprehensive help from the Western countries, which Atatürk took as a model. Based on charity and humanitarian work, first American organizations arrived in Turkey at the beginning of 19th century. Popularly known as “missionary organizations” or simply “missionaries”, they devoted their work to religious conversion of dominantly Christian minorities in the Ottoman Empire, charity activities and education. From the period of the first arrivals until 1920s, missionary organizations established number of hospitals and schools that proved beneficial to people and students across Turkey. Led by Mustafa Kemal Atatürk, the new government of Turkey was dedicated to the process of modernization of the country – a project that seriously needed support from the external powers. Therefore, this study aims to analyze the role of American private foundations in the process of development of education, health sector, and overall Turkey’s modernization. These findings suggest that American private organizations such as Rockefeller and Ford foundations had a strong hold in the development of institutions and education and training of individuals from Turkey in various fields. Therefore, this study seeks to present a detailed historical perspective of the activities of American philanthropic foundations and their influence on the development and the process of modernization of Turkey.

Keywords: Modern education, influence, America, Turkey



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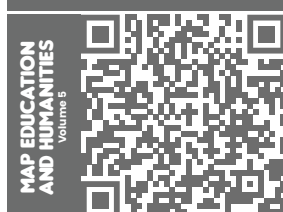
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Introduction

Based on charity and humanitarian work, first American organizations arrived in Turkey at the beginning of 19th century. Popularly known as 'missionary organizations' or simply 'missionaries', they devoted their work to charity activities and education predominantly among Christian minorities in the Ottoman Empire at that time, but in fact, the main activities of these organizations were based on religious work, namely religious conversion. From the period of the first arrivals until 1920s, missionary organizations established number of hospitals and schools that proved beneficial to people and students across Turkey. At the beginning of 20th century new form of philanthropic work with a principal focus on support to science emerged in the United States. Some of the American richest industrialists and businessmen in that period like Andrew Carnegie, John D. Rockefeller and Russell Sage have decided to establish private grant-providing foundations for the melioration of life standards of humankind all around the world – investing dominantly in education, infrastructure and public health.

Rockefeller foundation established in 1913 with an aim of investing in public health in the United States and abroad, soon emerged as the leading philanthropic organization that operated all around the globe. In terms of time scale, growth of the foundation imbricates with the establishment of modern Turkey in 1923. Led by Kemal Atatürk, the new government of Turkey was dedicated to the process of modernization of the country – a project that seriously needed support from the external powers. Beside destroyed infrastructure that Turkey faced after series of wars in its territory, poor and exiguous health system combined with dangerous diseases spread among masses presented a real challenge for the new government. As a reaction to the crisis, the Rockefeller foundation sent its representatives to Turkey to investigate and evaluate the position of public health in the country. After group of experts proved the scarcity of health system and urgent need for reaction, the foundation decided to invest serious grants on the establishment of the Central Institute of Hygiene in Ankara in 1927 (Erdem & Rose, 2000).

In the following decades the Rockefeller foundation has provided enormous grants to the medical institutions and individuals (fellowships) for the purpose of modernizing the whole system of public health in Turkey. Soon after the Second World War and under direct cooperation with the State Department, the Rockefeller foundation along with an upcoming giant among the philanthropists 'Ford

foundation' invested serious grants in the process of Turkey's modernization: providing significant number of fellowships to the United States, supporting educational institutions at domestic level and supporting the business and industry; Therefore, this study aims to provide the answers on the following questions: What role did Rockefeller and Ford foundations play in the process of Turkey's modernization? Also, which role these foundations had in the U.S. foreign policy in general and Turkish-American relations in particular? To fill the gap in the literature, this study canvasses the importance of foundations for the U.S. foreign policy and background of foundations' assistance, history of philanthropic work in Turkey, and provides data on Rockefeller and Ford's foundation work in Turkey.

The introductory section includes a brief historical overview of the first arrival of American organizations in Turkey and the development of their activities and programs in the country. In addition, this section highlights the research questions of the research. Also, it includes the significance of the study and statement of the problem that help answer the question why the researcher conducts this study. Next section includes the methodology as well as the theoretical background of the study and clarification of the concept of modernization of Turkey. The end of this part includes an analysis of previous studies with similar concepts and a discussion of the novelty of the study. The following section covers the role of the foundations in the US foreign policy and their highlighted significance during the Cold War period. Third section discusses about the Rockefeller foundation in Turkey, first arrival and support to the public health system in the country, educational programs for Turks abroad financed by the foundation, with clear numerical presentation of the foundation' focus during the period of 1920-1980. Fourth section talks about the Ford foundation in Turkey, first arrival and the development of the foundation programs in the country. It includes a numerical presentation of the money that Ford foundation has invested in the country for the period 1952-1971. The final section consists of a conclusion and recommendations for further study.

The importance and role of American private foundations in the international arena during the 20th century is underestimated and neglected in the literature. The Rockefeller and Ford foundations had very prominent programs in countries such as China, India, and Turkey. In his study, Erken analyzed the historical background of American philanthropy in Turkey in the period from 1920 to 1970. He emphasized that Turkish intellectuals, politicians, artists and foundation officials had a common vision

of turning Turkey's vision towards the West (Erken, 2018). Erdem and Rose also wrote about history of philanthropy in Turkey and development of scientific philanthropy in education, public health, and research, started by the Rockefeller Foundation after the establishment of Republic in 1923 and joined by the Ford Foundation in 1950s (Erdem & Rose, 2000). These two studies represented a strong basis for developing our research, which aims to analyze the role of the Rockefeller and Ford foundations in the process of modernization of Turkey through a top-down perspective. Moreover, our research aims to investigate the political role of the Rockefeller and Ford foundations in the Republic of Turkey with a focus on elite westernization through educational and health programs before and during the Cold War. This study seeks to explore the role that two prominent foundations have played in Washington's policy toward this part of the world. This study is descriptive research that seeks to present a detailed historical perspective of the activities of American philanthropic foundations Rockefeller and Ford and their influence on the development and the process of modernization of Turkey. W. Lawrence Neuman defines descriptive research as 'research whose primary purpose is to paint a picture using words or numbers and to present a profile, a classification of types, or an outline of steps to answer questions such as who, when, where, and how (Neuman, 2000).

After World War II, Turkey, together with Greece, was included in a package of enormous financial aid known as the Truman Doctrine in which the United States pledged to 'assist free peoples who are resisting attempted subjugation by armed minorities or by outside pressures' (Merrill, 2006). The aid package included military and economic aid intended for countries exposed to the threats of communism and totalitarian ideologies. These two countries were admitted to the North Atlantic Treaty Organization in 1952. In addition to the various US government programs launched in Turkey, numerous non-governmental organizations have been active in the country. The leaders of the non-governmental sector in Turkey were the Rockefeller and Ford foundations, which invested huge financial resources in their operational activities in this country. The significance of this study is in the research and analysis of how these foundations participated in the modernization of Turkey during inter-war period and later in a defense of the country against the threats of communism in the first decades of the Cold War.

Due to the position in which Turkey found itself after 1923, which was most distinguished by im-

itating Western countries in the field of state organization and foreign policy, it is very important for the researcher to analyze all the processes that contributed to the survival of this country in the Western bloc. This was especially true during the turbulent period of the Cold War in which Turkey was exposed to Soviet threats mainly due to its geographical position. Due to the importance of this country within the security bloc of the Western world, the United States, through its government and private programs and organizations, tried to Americanize Turkish society and contribute to improving the image of the West among the elite and the people. The Rockefeller and Ford foundations contributed the most in this process through the fields of education and health. These two fields were Turkey's top priorities due to the poor economic situation and their improvement simultaneously meant the process of modernization of the state. For this reason, it is very important for the researcher to analyze how the foundations participated in the education of Turks, the improvement of educational institutions, and the contribution in the field of health.

In the literature modernization is defined as a macroprocess of transition from traditional society to the society of modernity, leading to the appearance of modes of social life or organization which emerged in Europe from about the seventeenth century onwards and which subsequently became worldwide in their influence (Gavrov & Klyukanov, 2015). In today's terms, modernization concept can be looked through three prisms: a) as the internal development of Western Europe and North America relating to the European New Era; b) as a process by which countries that do not belong to the first group of countries aim to catch up with them; and c) as a process of evolutionary development of the most modernized societies (Western Europe and North America) (Gavrov & Klyukanov, 2015, p. 707). Some authors define theory of modernization as Europeanization or Americanization process, meaning that there is an attitude of complacency toward Western Europe and United States because these nations are viewed as having unmatched economic prosperity and democratic stability (Tipps, 1973). A concept of modernity during the twentieth century was defined by Western ideas, outlooks, and institutions, which were contrasted against traditional ideas and structures within the society being modernized (Ekblad, 2013). Science and technology have played a vital role in the transformation of economies and societies, which also included profound cultural, social, and political change on the part of those nations targeted by the modernization process (Ekblad, 2013).

In a historical perspective, Kemalist or republican modernization of Turkey has included process of industrialization and economic development. Also, it brought a strong emphasis on secularism over the Islamic political order in a predominantly Muslim society (Önis, 2004). In such an environment, key institutions of parliamentary democracy have been established and despite the breakdowns during the military interludes, parliamentary democracy has remained a norm for this country after its establishment (Önis, 2004). In the case of Turkey, the concept of modernization was interpreted by Turkish political elites as identical to westernization (Önis, 2004). Hence, westernization in the Turkish context meant not only commitment to economic, scientific and technological development, but also the establishment of a secular and democratic political system (Önis, 2004). Modernization in Turkey was a top-down process which brought tensions among its predominant Muslim population, but however, political elites led by strong emphasis on nationalism and secularism considered that establishment of close, organic relations with Europe and United States was a natural development (Önis, 2004). In their activities abroad American philanthropic foundations Rockefeller and Ford have been dominantly focused on elite groups in target countries, supporting projects led by qualified individuals. Such was the case with Turkey, in which significant number of individuals participated in programs launched by the Rockefeller and Ford foundations in the process of modernization or westernization of this country.

Role of foundations in the U.S. foreign policy

American interests in the Middle East during the entire 19th century can be characterized as dominantly based on religious and commercial activities. Commercial activities referred to the presence of American businessmen on the ground and particularly rising demand of the U.S. market for oil, while religious work related to the missionary organizations that arrived to the region for the sake of charitable work and establishment of schools and hospitals. However, the most significant activities of the missionary organizations in the early periods relate to the religious conversion of Christian minorities in the empire – since attempts for the conversion of Muslim population failed. The largest missionary organization in the United States ‘American Board of Commissioners for Foreign Missions (ABCFM)’ was established in 1810 (Khalil, 2016) with the strong beliefs in American religious superiority and exceptionality. Beside paternalistic behavior towards Christian minorities in the Ottoman Empire,

it was often the case that missionaries were emphasizing their racial and religious superiority (Galal & Yasmine, 2014). However, further strengthening of missionary work in the Middle East occurred in the second half of the 19th century with the establishment of two universities on missionary goals: Robert College in Istanbul (1863) and Syrian Protestant College (established 1866 and renamed ‘American University of Beirut’ in 1920);

After the World War I, board of the U.S. foreign missionaries held a set of negotiations with the British officials on establishing another university on missionary goals in the Middle East, based in Cairo. Diplomatic talks resulted in the foundation of American University in Cairo (AUC) by Dr. Charles A. Watson, an active member of the United Presbyterian Church, with an aim to establish an English-language university based on high standards of conduct and scholarship, and to contribute to the intellectual growth, discipline, and character of the future leaders of Egypt and the region (Galal & Yasmine, 2014). Especially in the first years of its functioning, the university was deeply associated with missionary organizations in Egypt and Middle East. Hence, the first AUC advertisements from 1920s include ‘triumph of Christianity over Mohammedanism’, ‘retreat of Turk’, ‘Middle East is the area where God is working most actively’, ‘donations to American University of Cairo would further God’s work’, etc. (Khalil, 2016). For several reasons (difficulty in converting people from Islam to Christianity, a growing number of Muslim students, etc.), AUC had to distance itself away from evangelical work and pursue more liberal education. Over the time graduates of American University of Cairo (AUC) and American University of Beirut (AUB) have become positioned at the important posts of British and French mandate rules, in Syria and Egypt particularly. Moreover, those universities’ graduate elites that played a pivotal role in the revolutions and overthrow of British and French colonies, and more importantly, in this way USA limited the potentiality for the new governments to join the Soviet Union during the period of Cold War. The expansion of these universities has been financially supported by traditional missionary organizations and newly established foundations on American soil.

During the economic expansion of the United States the number of millionaires in the country has been steadily increasing. By 1916, there had been over 40,000 millionaires in the United States, and at least two of these millionaires, John D. Rockefeller, and Henry Ford (the second having contributed much to the expanding wealth of the first), counted their fortunes in billions (Zunz, 2014). A key moment

occurred at the beginning of 20th century when wealthy businessmen and industrialists decided to establish private grant-providing foundations for the purpose of improving life standards of people at home and abroad: Andrew Carnegie Foundation (established 1906), Rockefeller Foundation (established 1913), and Ford Foundation (established 1936) – popularly known as Big 3 foundations. A focus of newly established foundations was on support to science, which meant that a new form of philanthropic work emerged in the United States. Soon after the significant number of foundation universities has been established in the country, new philanthropists started to provide enormous support to American organizations abroad and particularly supported American universities in the Middle East: Robert College in Istanbul, American University in Beirut, and American University in Cairo.

Position of American universities in the Middle East and foundations that have been operating across the globe began to change after the WWII and the beginning of the Cold War between Washington and Moscow. From the perspective of Washington, new foundations and universities on the ground emerged as an important player in containing the Soviet influence in the Middle East. In late 1947, the External Research Staff (ERS), as a division of the State Department Intelligence body, was established to coordinate between the State Department and universities, foundations, and research organizations (Khalil, 2016). Soon after its establishment, ERS held a meeting with the leading three foundations in the United States (Rockefeller, Ford, Carnegie) based on future cooperation. As a result, fellowship programs (for the U.S. citizens) supported by the foundations not only provided research studies to the U.S. government but invented new set of intelligence agents serving as a base of information for specific country. In case of Ford foundation, some of the fellows before leaving the United States received clear instructions from the State Department, and on the way back went through interrogation process (Khalil, 2016). Also, in the period after the WWII, the Rockefeller foundation in direct cooperation with the U.S. government often sent its representatives to different areas to evaluate the prospects for the foundation's activities and more importantly investigate the threat coming from the Soviet Union. For instance, Rockefeller's director for Humanities division visited the Middle East in 1950 and after detailed analysis emphasized the importance of Turkey and Iran for the Rockefeller foundation and the U.S. government. It might be concluded that the work of the strongest foundations after the Second World War fully corresponded to the American political economy since enormous pri-

vate funds invested by the foundations (support to universities, fellowships, national institutions, etc.) strongly influenced the decision-making process in specific country. Most of those who had the opportunity to receive fellowship program in the United States or Europe (foundation grants) soon held important positions in government, educational institutions, business circles, etc.

Rockefeller foundation in Turkey

American philanthropy in Turkey dates to the beginning of 19th century and arrival of the first missionaries to the territory of the Ottoman Empire. Considering the political circumstances and the general atmosphere in the empire, missionary organizations have been dominantly focused on religious conversion of Christian minority groups. Also, their work included support to education, charity and general treatment of diseases (Trask, 1971). By the beginning of 20th century, new form of philanthropic work emerged in the United States with the establishment of private foundations that focused on scientifically approach to charity – precisely support to education, universities. One of the leading American philanthropic organizations in 1920s was 'Rockefeller foundation' that primarily focused on support to medical education and improvement of public health in the United States and abroad. It was established in 1913 by John D. Rockefeller, a man whose wealth emanated from successful oil business (he was the owner of Standard Oil Company) (Birn, 1996). John D. Rockefeller provided some assistance to the missionary organizations in the Ottoman Empire, and after the establishment in 1913, his foundation provided significant aid to Armenian and Greek refugees after the First World War (from today's Turkey) (Erdem & Rose, 2000).

In 1923, new government of Turkey led by Kemal Atatürk soon after establishing the republic pursued the process of the modernization of the country. Considering the destroyed infrastructure after numerous wars, project for the modernization required serious efforts from the local perspective, but also needed external grants as an impetus for the development. One of the biggest challenges for the new government was the poor condition of public health system and the spread of dangerous diseases in the country. As it was the case with the other countries in the world, Rockefeller foundation arrived in Turkey through the support for public health. Even though foundation received information on the state of health system in the country provided by Christian missionaries (agents on the ground), it also decided to send its own representatives to Turkey for the evaluation of prospects for

functioning. The most significant visit of the Rockefeller's representatives was the arrival of Dr. Ralph K. Collins to Turkey in 1926. For several months he travelled across the country obtaining information and data on public health in Turkey. It resulted in his comprehensive report on 'Public Health in Turkey' by the end of 1926 (Rockefeller Foundation Records, 1951). Since the report indicated on the existence of poor and exiguous system and urgent need for the aid, Rockefeller foundation has decided to act in two ways: training the individuals through the fellowship programs in the United States, and cooperating with the Ministry of Health in Ankara for the establishment of the institute with focus on public health; The first serious project after Rockefeller's involvement in Turkey was the establishment of *Central Institute of Hygiene* in Ankara in 1927 (Rockefeller Foundation Records, 1951). Foundation invested \$80,000 for the contribution to scientific equipments in the institute, and \$200,000 for establishment of the Service School as the supplement to institute's work. Soon in 1936, Service School was transformed to the School of Public Health and Dr. Ralph K. Collins became the first dean (Rockefeller, 1951). Under the convenient atmosphere and a new leadership number of nurses received fellowship programs across the United States.

From 1920s until the beginning of the Second World War, Rockefeller foundation dominantly focused on support to public health in Turkey providing grants to institutions and providing fellowship programs for Turkish doctors and nurses. In this period, 33 out of 44 fellowship programs were in public health (Rose, 2003). One of the main obstacles of Rockefeller foundation's fellows for accustoming to the new environment was the lack of English language proficiency. Additional classes of English language before the beginning of the studies at university were not enough for some, so they had to negotiate with the foundation on changing the universities (from Harvard to John Hopkins in case of the first fellows), or they have been sent to observe practical work in the field of public health across the United States. Furthermore, some of the obstacles for the fellows included adapting to a completely new culture, high life expenses, public transportation, size of cities, etc. However, some of the fellows in the field of public health succeeded to impress Rockefeller foundation with their performance, as it was the case with Mr. İhsan Dogramaci who received fellowship program in the United States. In 1950s, as the Head of Department for Child Health at University of Ankara he received grant for the fellowship program in the United States, where he had a chance to observe practical work in the field of pediatrics. From the side of the foundation,

Dogramaci was described as someone with leadership characteristics, energy and capacity to improve the position of medical education in Turkey. From 1950s to the end of 1960s Rockefeller foundation supported programs initiated or linked to İhsan Dogramaci with the total cost of more than \$1,000 000 (Erdem & Rose, 2000). Among the most successful projects initiated by Dr. İhsan Dogramaci is the founding of Hacettepe university and Bilkent university in Ankara.

Another educational institution that has received the large grants from the Rockefeller foundation in the period after the Second World War was the Robert College in Istanbul. This educational institution had a special importance for the Rockefeller foundation and the U.S. government since it was the first university in the Middle East (together with Syrian Protestant College) established on missionary goals in the late 19th century, and moreover, it had status of the first American university outside the borders of the United States. Although Robert College has been a serious educational institution from its very establishment, however, due to various reasons, serious investments and grants to this educational institution were provided after the Second World War. As it was the case with other American universities in the Middle East, Robert College in Istanbul had an important strategic place in the process of the containment of Soviet Union during the Cold War. In the second half of the 1950s, Robert College received \$350,000 from the Rockefeller foundation for training of Turkish personnel that were supposed to serve as the university staff. Also, in the same period and under cooperation with the State Department, Rockefeller foundation invested \$115,000 for the education in the field of humanities – that mostly related to the understanding between East (Turkey and the countries of the Middle East) and West societies (Erdem & Rose, 2000). Regarding training of Turkish personnel at Robert College in Istanbul, Rockefeller foundation was financing doctorate studies in the United States or Britain, but as a part of the program fellows had to return to the Robert College and teach for the period of three years. Aim of those doctorate studies and all fellowship programs financially supported by Rockefeller foundation in general was to advance English language, get specialized in selected fields, gain western mindset and way of doing things, and simply to have orientation towards the West.

As an overview of the entire work of the Rockefeller foundation in Turkey it might be concluded that area of public health received most of the grants from the foundation (institutions, individuals) until the Second World War, while in post-WWII

period Rockefeller foundation together with another giants among philanthropists Ford foundation expanded grants to different fields in Turkey such a political science, economics, journalism, history, arts, etc. Precise data on Rockefeller foundations support to fellowship programs for Turkish citizens is shown in the tables below.

Table 1.
Rockefeller foundation appropriations for Turkey

Program	Total \$*	% of Total \$	Number	% of Total
Medical Sciences	992,615	41.7	24	20.9
Arts and Humanities	792,347	33.3	59	51.3
Public Health	333,710	14.0	9	7.8
Social Sciences	139,995	5.9	19	16.5
Nursing	111,275	4.7	2	1.7
Natural Sciences	10,400	0.4	2	1.7
TOTAL	2,380,342	100	115	99.9

Note: Erdem. M. & Rose, K., W. (2000). American Philanthropy in Republican Turkey: The Rockefeller and Ford Foundations, The Turkish Yearbook, 2, 31, 137.

Table 2.
Major fields of study of Turkish RF fellows

Field	Number	% of Total
Public Health	42	26.7
Social Sciences	38	24.2
Medical Research & Education	37	23.6
Agricultural Sciences	24	15.3
Humanities	16	10.2
TOTAL	157	

Note: Erdem. M. & Rose, K., W. (2000). American Philanthropy in Republican Turkey: The Rockefeller and Ford Foundations, The Turkish Yearbook, 2, 31, 137.

Table 3.
Turkish Rockefeller Foundation Fellows by decade

PROGRAM	1920s	1930s	1940s	1950s	1960s	1970s	1980s	Total
Agricultural Sciences	0	0	0	0	5	13	6	24
Humanities	0	0	0	15	1	0	0	16
Medical Research & Education	4	2	2	22	7	0	0	37
Public Health	15	18	1	8	0	0	0	42
Social Sciences	1	4	1	17	15	0	0	38
TOTAL	20	24	4	62	28	13	6	157

Note: Erdem. M. & Rose, K., W. (2000). American Philanthropy in Republican Turkey: The Rockefeller and Ford Foundations, The Turkish Yearbook, 2, 31, 137.

Ford Foundation in Turkey

Ford Foundation was established in 1936 by Henry Ford and Edsel Ford based on serving the public welfare and helping to resolve national problems through support for institutions, communities and talented individuals in the United States (Ford Archive, 1972). However, leaders of the foundation decided to expand the foundation's work to the international scene by the end of the Second World War particularly because of the shared fears of possible spread of communism and influence of the Soviet Union in different areas in the world. Because of its decisive stance from the beginning of the Cold War, Ford Foundation in some circles was known as 'front for dangerous communists', or 'foundation that sends assassins, spies and diversionist to Eastern Europe' (Macdonald, 1956). Ford Foundation in its work followed classical style of philanthropy – providing grants directly to the institutions in selected countries. However, from the first periods of its establishment it supported different research programs (fellowships) in wide areas unlike the Rockefeller foundation whose work was dominantly tied to universities and more precisely to the field of medical education and public health.

From 1950s Ford Foundation has launched its activities in Turkey, but however, established its first field office in 1960 (Erdem & Rose, 2000). As it was the part of foundation's general framework it was not completely bound to support for universities (also in Turkey), but rather, Ford Foundation under direct cooperation with Turkish government invested enormous grants to different institutions dedicated to the modernization of the country. In the period between 1952 and 1962, the foundation provided \$5.2 million of grants to Turkey. Some of the largest grants provided to the institutions in this period include \$1,000 000 of grants to the Ministry of Education, \$1,000 000 of grants to the Institute of Business Administration at the Faculty of Economics of the University of Istanbul, and \$883,000 of grants provided to Robert College and American College for Girls in Istanbul (Ford Archive, 1963). General summary of the Ford foundation involvement in Turkey is presented in the tables below:

Table 4.

Summary of Ford Foundation Support to Turkey: 1952–1971

Science Development	\$6,310,124
Business and Industrial Development	\$3,303,380
Social Sciences	\$1,386,800
English language for Turks	\$644,550
Other grants	\$2,754,264
Other program and administrative expenses	\$1,658,255
TOTAL	\$16,057,373

Note: Erdem. M. & Rose, K., W. (2000). American Philanthropy in Republican Turkey: The Rockefeller and Ford Foundations, *The Turkish Yearbook*, 2, 31, 137.

Allocation of the funds to the institutions in Turkey (Ford Foundation 1952–1971) include grants for: Ministry of Education, National Science High School Project, graduate programs in mathematics and physical sciences (Middle East Technical University, Hacettepe University, Ankara University), university technology (Middle East Technical University), business and industrial development, management education and training (Istanbul University, Turkish Management Association, support for university-level business schools), research and conferences on development problems, social sciences, English language for Turks, other foundation grants (Ford Archive, 1963).

CONCLUSION

At the beginning of 20th century America experienced the birth of new philanthropists– or private foundations established on the goals of scientific approach to charitable work. Foundations have been established by American richest men at that time who decided to work on the improvement of social welfare and conditions of life at home and abroad. Two of the wealthy businessmen and industrialists particularly stand out, namely John D. Rockefeller and Henry Ford. The first established the Rockefeller foundation in 1913 with dominant focus on public health and medical education, while the second established Ford foundation in 1936. Soon after the Second World War, the importance of these foundations has significantly increased since Washington regarded them as important players for the containment of the Soviet Union in critical areas of operation, like for instance the Middle East.

From the beginning of the 19th century to the First World War, American involvement in the Ottoman Empire in the fields of education and science

had Protestant nature (Erken, 2018)– they could operate freely because of the well-established relations with the government of the empire. Three American universities in the Middle East, Robert College in Istanbul, American University in Cairo, American University in Beirut, have been educating the elite since the 19th century. With a high standard of education and scholarships, these universities have produced political leaders and intellectuals in the Middle East region. As we stated in the research, these educational institutions were in contact with American Christian missionary organizations at the very beginning. With the advent of scientific philanthropy in America, the position of missionary organizations was taken over by philanthropic foundations led by the Rockefeller Foundation during the 1920s.

However, with the abolishment of the Caliphate and collapse of the Ottoman Empire, most of American organizations and institutions went through various challenges and period of expectations for the politics of new government in Turkey and future of their work. In the period when Mustafa Kemal Atatürk declared the independence of the new Turkish republic in 1923, Rockefeller foundation had a leading position among other relatively young foundations in the territory of the United States. New government in Turkey pursued the plan for the modernization of the country but found itself in serious need of external assistance particularly in the field of public health. The most significant circumstances that facilitated the arrival of the Rockefeller foundation to Turkey have been the Atatürk's aim to modernize country on the basis of secular state, and also quite favorable position of Americans in Turkey in comparison with other European powers in that period. As a result, with the leadership of the foundation and injection of enormous grants, first Institute of Hygiene was established in 1927 in Ankara. Project had crucial importance since it was the starting point for the development of public health system and medical education in the following years. In the period between 1925 and 1983, Rockefeller foundation financially secured more than 160 fellowship programs for Turkish citizens outside of their country, dominantly in the United States, while at the same time foundation provided grants for a number of organizations and institutions in Turkey which significantly contributed to the process of the country's modernization.

On the other side, Ford foundation, because of its strong financial background and intent for operation at international stage, soon emerged as a rival to the Rockefeller foundation. From 1950s to 1970s Ford foundation provided more than \$16

million of grants to various Turkish institutions and organizations. Looking together, two foundations provided enormous grants and pursued serious programs that significantly contributed to the development of different societal segments in Turkey, particularly improving the position of science and education. As aforementioned data presents, their work has been the most intensified during the period of 1950s and 1960s in which pro-American Democrat party ruled the Turkish politics on one side, and on the other side, this is the period when the United States launched the aid programs for Turkish economy and military. Moreover, this was the period of intensified Cold War, so Rockefeller and Ford foundation under direct cooperation with the U.S. government have decided to invest serious funds for the development of humanities at universities in Turkey – that had focused on interaction between eastern and western civilizations. From the perspective of Washington, new foundations and universities on the ground emerged as an essential player in containing the Soviet influence in the Middle East. They were often part of the American strategy towards certain countries or regions by offering their ideas and resources for the purpose of national interest. For instance, in the period after the WWII, the Rockefeller Foundation, in direct cooperation with the U.S. government, often sent its representatives to different areas to evaluate the prospects for the foundation's activities and, more importantly, investigate the threat coming from the Soviet Union. For instance, Rockefeller's director for the Humanities division visited the Middle East in 1950 and, after detailed analysis, emphasized the importance of Turkey and Iran for the Rockefeller Foundation and the U.S. government. In terms of the Westernization process of Turkey, the American Rockefeller and Ford foundations have launched many projects in the field of social sciences and arts in the country. Robert College in Istanbul, which was later renamed Bogazici University, was one of the educational institutions with the highly emphasized support of the Rockefeller and Ford foundations. By providing opportunities for the specialization in selected fields (fellowships) to Turkish citizens, foundations had a chance to shape public opinion to some extent and influence the government policies in the short period, particularly because the fellows soon after returning to Turkey occupied important posts in the government, business, educational institutions, etc.

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REVIEW PAPER

ARTIFICIAL INTELLIGENCE IN PUBLIC AFFAIRS

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ABSTRACT

Artificial intelligence enables machines to imitate human capabilities such as logical thinking, planning and creativity. This implies that learning something and then using the new learned knowledge characterizes artificial intelligence. Once artificial intelligence learns how algorithms, programs or systems work, it can always retrieve them. Thus, artificial intelligence could be in the position to support our everyday lives and our working lives if we use it properly. The present paper explores how artificial intelligence can be used in working life, especially in the field of public affairs, and what advantages and disadvantages it could have for public affairs managers. There is not much information about this matter so far, although it is a very interesting issue since public affairs is a communication profession in which adequate communication cannot simply always be the same and must be customized for individual persons. Based on actual articles, studies, internet sources and books, the current study shows what available literature reveals about this topic.

Keywords: Artificial intelligence, Advantages and Disadvantages, Public affairs



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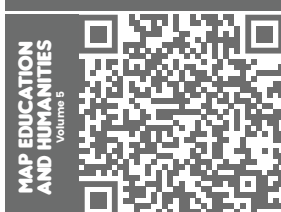
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Introduction

The use of digital and social media platforms has increased in the public affairs sector in recent years (Rest, 2021). Nowadays, if a lobbyist or public affairs manager wants to be heard in the industry, they must use digital or social media platforms (2017, Köppl), which enable digital networking and topic exchange (Koch, 2021). The fact is that the industry needs to grow to remain competitive in the age of digitalization (Köppl, 2021). The public affairs sector has also developed immensely in recent times with public affairs managers in Austria becoming increasingly open to digitalization, which was especially noticeable in times of the Corona crisis (Resl, 2021). However, the way in which artificial intelligence will affect the public affairs sector is still unclear. It is difficult to show how artificial intelligence could be consciously used in the everyday life of a public affairs manager and what advantages and disadvantages it might bring. Therefore, the aim of the current paper is to familiarize public affairs managers and lobbyists with the use of artificial intelligence in the public affairs sector. The paper is based on extensive research of current articles, internet sources and textbooks. The research was conducted analyzing various online databases paying attention to the topicality and scientific nature of the sources used.

Use of AI in companies

Artificial intelligence is expected to change the way of performing various jobs in the future. In particular, it will modify business models, operational processes, human resources management and the skills of managers and employees. Companies are tasked with managing these opportunities and risks and with thoroughly analyzing this change. The decision of whether and how to leverage it lies solely with them. They determine the extent to which they engage with artificial intelligence, the level of their knowledge about it, and its conscious application within their operations. Moreover, it is also within their discretion to decide if they choose not to utilize artificial intelligence at all. However, companies should not ignore the change and the increased emergence of artificial intelligence as it could lead to a rude awakening. It is, therefore, advisable that companies deal with the opportunities and challenges of a possible use of artificial intelligence. They should determine whether the introduction and use of digital technologies, such as artificial intelligence, in work design and change management processes would benefit them, whether enhancing their learning and innovation capabilities would be advantageous for them. Although each company

decides upon advantages and disadvantages of the artificial intelligence use, they should all consider them carefully (Frost et al., 2019) as digitalization has increased enormously. Linked to this, there is a study that has so far dealt with the topic of digital transformation, in which the most frequently used keywords between 2017 and 2020 were identified. The results showed that they are all associated with digital transformation. In 2017, these included terms such as Industry 4.0 and digitalization. In 2018, the terms innovation, strategy and big data were selected. In 2019, the following terms were included: Dynamic Capabilities, Strategy, Industry 4.0, Value Co-Creation, Big Data, Change Management and Business Model. In 2020, these terms were Digital Capability, Strategy, Industry 4.0, Big Data, Business Model, Artificial Intelligence, Value Creation, Value Co-Creation and Change Management (Kraus et al., 2022).

Obviously, artificial intelligence will change the world of work, partly because artificial intelligence carries out cognitive processes through systems. For example, artificial intelligence can perform rule-based or mathematical operations because it has learned to do so. The systems behind it enable that, which means that artificial intelligence has to make use of clean data. The work of artificial intelligence must be designed to be human-friendly, so that, for example, it provides learning opportunities for employees. However, the issues of responsibility and authority must also be clear. On the one hand, the use of artificial intelligence in this way promotes efficiency and increases the potential for innovation. On the other hand, safety and health can also be improved using artificial intelligence (Adolph & Tausch, 2022).

If companies do not engage with these advancements, they risk missing out on progress and maintaining their current levels of efficiency and productivity. Meanwhile, competitors who adopt artificial intelligence can achieve more efficient processes and potentially gain a significant advantage (Frost et al., 2019). In any case, the proper use of artificial intelligence is advisable (Frost et al., 2019). People do not have to do everything. They can outsource certain things to artificial intelligence. For example, they can use artificial intelligence and imitate human abilities such as logical thinking, planning and creativity. Once artificial intelligence has learned how these things work, it remembers it and can apply it when needed, which saves time and money (Current European Parliament, 2020).

Defining artificial intelligence

Artificial intelligence makes it possible to imitate human abilities. Specifically, a machine can take over human abilities such as logical thinking, learning, planning, being creative, and imitate them. With the help of artificial intelligence, technical systems, for example, can perceive their environment. Then, in a further step, they can deal with what they perceive and solve problems in such a way that a goal can ultimately be achieved. In short, the computer receives data through a camera, for example, and can then process it and react. Examples of artificial intelligence are autonomous cars, web search, automatic translation, smart farming, robots in factories, personal digital assistants on smartphones or PCs and much more (Current European Parliament, 2020).

Technologies that are essential for humanity have been around for more than 50 years. However, in the last 50 years, a lot has happened. There have been numerous breakthroughs. For example, there have been advances in computing power, the availability of large amounts of data and new algorithms. All of this has ultimately led to the very big breakthrough of artificial intelligence. The ongoing change has made an immensely big change possible. Artificial intelligence is enormously important for our society today and is more than just present in everyday life. We can expect new applications in the future, which will also have an impact on people's lives (European Parliament, 2020). Basically, there are currently two types of artificial intelligence. There is the software which involves a kind of virtual assistance, image analysis software, search engines, speech and face recognition systems. There is also embedded artificial intelligence including robots, autonomous cars, drones and all applications of the Internet of Things (Current European Parliament, 2020).

Artificial intelligence in everyday lives

Artificial intelligence can be applied in everyday life in different ways. For example, intelligence can assist with online shopping and advertising by giving customers personalized recommendations. These recommendations are based on previous product searches and purchases or on their online behavior. Artificial intelligence is also helpful for optimizing products, planning inventories and in logistics. Artificial intelligence can help with web searches because it learns from extensive data that users have entered in search queries based on which it can deliver relevant search results. Artificial intelligence can also support smartphones in terms

of optimal personalization. People could more often use virtual assistants' help to answer questions or make recommendations and help organize everyday life. Artificial intelligence can also help with automatic translation. Automatic subtitles can be created for video content or TV programs and it can assist with written or spoken language. Moreover, the energy supply can be supported by artificial intelligence. Intelligent thermostats can learn from usage behavior and, thus, save energy. In smart cities, traffic can be regulated in this way resulting in improved connectivity and reduced traffic congestion. Vehicles can also benefit from artificial intelligence in terms of safety. For instance, there can be sensors that indicate dangerous situations or drivers might rely more on intelligent navigation. Artificial intelligence can also support cyber security, detecting and combating cyber-attacks and cyber threats. The focus is on the continuous input of data. Patterns can be recognized, and attacks can be traced. Artificial intelligence could also be used against viruses such as Covid19. For example, thermal imaging cameras were increasingly used at airports. Artificial intelligence is also used to combat disinformation. There are already applications that can detect fake news and disinformation. They can evaluate content from the media, search for key terms and determine which sources are reliable and which are not. Artificial intelligence can also provide support in health. Researchers are currently investigating how they could use artificial intelligence to analyze large amounts of data, so that that patterns leading to new insights in medicine and improved diagnosis can be identified.

As we can see, artificial intelligence can support the most diverse areas of humanity (Current European Parliament, 2020). Fundamental advantages for citizens could be that artificial intelligence makes its positive contribution in healthcare, cars and other means of transport. However, the use of artificial intelligence can also bring customized, affordable and durable products and services to the market. The access to information can be facilitated, distance learning, a different way of continuing education becomes possible and artificial intelligence can make its contribution to workplace safety, for example by being used in dangerous work steps. New jobs can be created, new industries and much more. Companies can also benefit from it. New products and services can be developed, distribution channels can be optimized, maintenance techniques can be improved, product performance and quality can be increased and customer service can be improved. Artificial intelligence can also help to reduce costs in public services and open new opportunities in public transport, education, energy

and waste management. Artificial intelligence can strengthen democracy by intercepting disinformation and detecting and preventing cyber-attacks at an early stage.

However, we should be careful how we use it. The opportunities and risks must be consciously weighed up. If people do not engage with it, they cannot make a meaningful assessment for their own area. Only if people consciously engage with it can they assess which opportunities and risks can arise from the use of artificial intelligence in their specific field. With artificial intelligence, however, humanity should decide who will assume liability for damages if something happens. Should artificial intelligence be used in democracy and fundamental rights, questions of data protection are also very important, among other things. The question whether artificial intelligence is really being used properly arises. People must keep an eye on this and not blindly rely on artificial intelligence. In addition, artificial intelligence in the field of work can also mean that certain jobs no longer must be carried out in the familiar way. They can, for example, be taken over more easily and safely by artificial intelligence than if they were carried out by a human being. Numerous security issues must also be considered. Should artificial intelligence meet the physical body, that could be abused. We should be more aware of all this. We should deal with it and be informed about opportunities and risks, especially in the areas relevant to our work and personal life. Only in this way can the person gain a comprehensive picture and act adequately (Current European Parliament, 2020), bearing in mind the fact that algorithms and artificial intelligence will play a fixed role in jobs in the future (Osztovcic et al., 2021).

Advantages and disadvantages of artificial intelligence

Artificial intelligence has numerous advantages, but also disadvantages, when viewed as a whole. A very big advantage associated with artificial intelligence is the ability to do work faster and more efficiently than humans can do it themselves. One example of this is that with the help of artificial intelligence, large amounts of data can be analyzed more quickly, and patterns can be recognized. Artificial intelligence can do this faster than humans can. Production and business processes of companies can also be optimized and costs can be reduced. Artificial intelligence can also make personalized recommendations for people and carry out activities that are boring or dangerous for humans. It can do all this with precision and accuracy.

Disadvantages are that artificial intelligence can eliminate jobs, there can be privacy issues by misusing data or there can be data leaks when using artificial intelligence. Artificial intelligence can also be error prone. It is ultimately based on algorithms and errors can occur when data is incomplete or incorrect and, therefore, programmed incorrectly. Humans can also become dependent on artificial intelligence. If man relies only on artificial intelligence, this can lead to dependence. That is why people might no longer use their abilities for something on an ongoing basis and outsource everything to the artificial intelligence. If this is faulty or manipulative, it can lead to serious problems. Artificial intelligence can also lead to numerous prejudices and unfair decisions. Incomplete or inaccurate can lead to distortions. Artificial intelligence can be expensive when it comes to company-specific things. Artificial intelligence, therefore, offers numerous advantages and disadvantages. People should be aware of both and make a conscious decision for or against the use of artificial intelligence, which depends on their human ability to assess (Techparadies, 2023).

Artificial intelligence in communication industry

Artificial intelligence has also made its way into the communications industry. There is no doubt that the way communication managers operate will be transformed by artificial intelligence. This is largely due to the ability of artificial intelligence to generate advertising copy and press releases at a much faster rate than humans. The ChatGPT system is very helpful here. The question that arises here is how people are supposed to recognize when something has been written by artificial intelligence and when it has been written by a real human being. There are already answers to this question because there is artificial intelligence that recognizes exactly when something has been written in ChatGPT, for example, and when it has not. This applies at least to texts that were written to inform a press release or similar. How it looks here with social media contributions is questionable. However, the possibility of artificial intelligence publishing posts online just like that is a social question that humanity should consider carefully because this could change society and togetherness. People could become even more anxious and insecure because they no longer know whether, for example, the post was written by artificial intelligence or a human being who really wants to say something moving, which would cause confusion. Of course, when humans communicate something, it is usually at least endowed with more emotions and more feelings than when

a machine does it. This distinction is no longer so clear. Communication managers really need to become aware of this, and they should consider whether a labelling obligation would not be useful so that the reader knows who really wrote what. This means that communication managers should also consider when they are using artificial intelligence and when they are deliberately not doing so. They should, therefore, be fully aware of the advantages and disadvantages of artificial intelligence in their professional field. Another point is that artificial intelligence can now write concepts for companies. A way of dealing with this should also be found. The question is whether they want to rely on such concepts and then no longer need consultants, or whether a company even has concepts written for it by artificial intelligence. There would also be the possibility of consultants using artificial intelligence for concepts, but then presenting them with the human component. However, these are questions that individuals must consider for themselves. It is essential to determine how they wish to engage with such advancements. Regardless, communicators must address artificial intelligence proactively. The sooner they familiarize themselves with it, the better equipped they will be. Otherwise, they can be replaced more easily than thought. However, if communicators use artificial intelligence consciously and learn to apply artificial intelligence it can only bring them advantages. What is recommended here is that communicators learn how to prompt. This means they must learn how to use artificial intelligence properly. If they can do that, truly great results can be made possible with the help of artificial intelligence, but the fact is that communicators have to know at least what output is possible with artificial intelligence. They must not close their eyes to it (PRVA, 2023).

Artificial intelligence in politics

Artificial intelligence is also becoming increasingly important in politics, but humans remain humans. The more artificial intelligence is integrated into politics, the more the human being counts again in the end, because the human being makes the central difference. Ultimately, that is what politics is all about. If texts need to be written quickly or summarized, this can be done well with artificial intelligence. It is also helpful when documents need to be scanned quickly. This is especially important for organizations or companies that have a smaller communication budget. However, politics is not about long texts and a lot of explanation in writing. In politics, the focus is on the recipients of the communication. When communicating with them, what is said must stand out. This can be done by means

of communication that is specifically selected and set up for this purpose. Communication has to be short and to the point and artificial intelligence is of no use here. Politicians are often presented with countless press releases, statements, position papers, outlooks, monitoring, target images and the like while the content is effective when it is short and clear. Thus, in the age of artificial intelligence, human beings are still needed. It takes a flesh-and-blood human being to talk to political decision-makers. It needs conversations from person to person. Behind political decision-makers there are people again. This means that the human component is still the central element in the communication of interests since communication takes place from person to person. For this to happen authentically, the communication must also be made and prepared by a human being. Therefore, key to advocacy in the age of artificial intelligence is human authenticity. There needs to be a clearly recognizable signature in communication.

Communication here must be thought out by humans and then implemented. Artificial intelligence must not take over the bulk of the work here. That would be noticeable. Nowadays, speeches from a box are not popular. One way to use artificial intelligence is to use it specifically and consciously for preparatory work. It can help to screen people in advance and, for example, bring details about people into a conversation. In the end, however, political communication must be human again. It needs human communication and emotional proximity. Artificial intelligence cannot hold a candle to humans as communicators here. Moreover, artificial intelligence cannot replace human conversation or participate in human conversation as an interlocutor. It cannot communicate face to face with someone. The Corona pandemic also brought to light that a lot can be done digitally, but it can never replace a face-to-face conversation. People crave for face-to-face communication nowadays (Politics & Communication, 2023).

Artificial intelligence in public affairs

Public affairs in particular is about supporting strategic decisions in the political, economic and social spheres. Companies must maintain their external relations with these areas, and it requires a precise analysis and strategic preparation of how to deal with political, economic and social issues (Althaus et al., 2005). This work requires comprehensive screening, so that public affairs managers know what is going on politically in the individual sectors. If they know this, they can react to it adequately (Köppl, 2017), and this is where artificial in-

telligence comes into play. With the help of artificial intelligence, screening, analysis and generally the preparation of data can be done quickly and efficiently. Humans save time and costs. One advantage is that artificial intelligence can quickly and efficiently complete the tasks of public affairs managers, insofar as it is a matter of processing them. However, when it comes to communicating interests, it is better to let humans do it. Artificial intelligence may write good texts, but if content is to really reach political stakeholders, it is more advisable for public affairs managers to do it themselves. It is better if they rely on personal communication with emotions (Politics & Communication, 2023).

However, it is also a fact that digitalization can no longer be ignored. Digitalization is also part of a lobbyist's job (Koch, 2021). Friday, March 13, 2020, may be recalled here. Lobbyists were no longer able to carry out their work as usual. Public places could no longer be visited due to the coronavirus in the coronavirus pandemic. The Austrian government took measures at the time that made it impossible for lobbyists to carry out their work. Personal contacts were restricted, home office was ordered, and many places were sealed off. Lobbyists could only carry out their work if they used digital tools and this is precisely why lobbyists need to be broadly positioned and prepared for all eventualities. Not taking digitalization seriously would be a mistake (Koch, 2021; Osztovcics et al., 2021). To be able to do this professionally and well, lobbyists naturally need correspondingly good digital skills. Without these, they cannot find their way in the world of digital tools and platforms (Franz, 2018). It is also important to mention that digital public affairs draw on three fundamental aspects. Lobbyists must inform, participate and mobilize (Einspänner, 2010). Those who are not represented online cannot inform others about anything, cannot participate in discussions and cannot mobilize (Köppl, 2017). It should also be noted that digital lobbying works differently to traditional lobbying. In traditional lobbying, lobbyists do not have to deal with the public and permanent transparency. They do not have always to be available online. With digital lobbying, on the other hand, lobbyists must deal with both aspects in great detail. They must be available online and engage with the public. Both types of lobbying will be able to co-exist and will be used depending on the situation (Stürmer, 2021).

Conclusion & Implications for further research

Artificial intelligence can imitate human abilities. It can think logically, learn, plan and be

creative. It can make work more efficient, do it faster and take heavy work off your hands. It can also work very accurately and carry out work with great precision and accuracy. However, artificial intelligence can also eliminate jobs and data protection issues can arise. Furthermore, it can be error-prone and create a kind of dependency. People may outsource too much to it.

However, how people use artificial intelligence, both professionally and privately, is up to them. It is important that they know both advantages and disadvantages that the use of artificial intelligence could offer them. Only if a person knows what advantages and disadvantages artificial intelligence could have for specifically selected areas can the effects be better assessed. In the end, it is the person who decides whether he or she wants to consciously use artificial intelligence or not.

Artificial intelligence can positively support both the communications industry and the political industry. To what extent this happens depends again on the people who apply it, but the fact is that artificial intelligence is good at preparing data and analyzing and summarizing data, but when it comes to personal conversations, human actors currently still rely more on human conversations. Communication is still human, especially if it is to take place face to face. Artificial intelligence cannot support this. Even if it does, then it is most likely in the preparation.

In public affairs, too, the representation of interests is still done in the classic old-fashioned way. The personal conversation still counts. Artificial intelligence is advantageous when preparing documents for a personal meeting, for example. However, it is not needed during the conversation itself. Artificial intelligence is disadvantageous when short, concise statements are needed. Professionals prefer to do this on their own and rely on their emotions and feelings.

It should be noted that the topic of artificial intelligence is still in its early stages. The extent to which it will develop in the future remains to be seen. The current status quo was shown in the article. How things will develop in the next few years remains to be seen. For the future, it is advisable to take a closer look at the topic of artificial intelligence in public affairs. It would be interesting to see if anything has changed in the use of artificial intelligence in public affairs in a few years. This investigation can be conducted as a literature review or actively through quantitative or qualitative research.

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ORIGINAL RESEARCH PAPER

CALQUING AS A PRODUCTIVE MEANS OF MEDICAL TERMS CREATION

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ABSTRACT

Languages have always come into contact and influenced one on another. The result of such a contact are borrowings and calques. Borrowings are common in languages for special purposes where the foreign words are borrowed to fill lexical gaps. On the other hand, calques appear because of puristic attempts to limit the invasion of foreign words into the target language. The aim of this paper is to investigate calques, their typology in the Croatian medical language and to confirm calquing as a precious means of medical terms creation. This is a corpus-based study which included Croatian medical publications. The analysis distinguished three main types of calques: lexical, syntactic and semantic. In the group of lexical calques, we recorded literal calques, semi-calques and loan creations. Syntactic calques refer mostly to juxtaposition which is commonly found in medical terminology under the English influence. Semantic calques include metaphor and analogy. The research stresses the importance of calques and their potential to enrich Croatian medical terminology.

Keywords: calquing, Croatian medical terminology, lexical calques, syntactic calques, semantic calques



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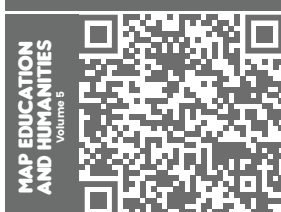
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1. Introduction

Medical language is the language used by medical experts in their professional communication (Glesinger, 1965). It has more than 2500 years long history. It belongs to a group of languages for special purposes, which are characterized by different features. Terminology is the most prominent one. Due to the intensive language contacts, terminology is liable to changes, which are present at all language levels, but are most evident at the lexical level.

Accordingly, borrowing and calquing have always been the main sources of new terms. Borrowing refers to the complete transfer of a foreign language item (usually a lexical one, i.e. a loan word), and thus to the “importing” or acquisition of a foreign signifier and signified (Gomez Capuz, 1998). On the other hand, calquing refers to “loan translation” and substitution, i.e. reproducing the meaning of an item in another language through imitation, employing the target language’s signifiers or linguistic elements. In the literature, the distinction between loanwords and calques is presented in terms of opposition between *importing* and *substituting* (Deroy, 1956/1980; Haugen, 1950).

Languages for special purposes are also affected by language contact, especially in the era of globalisation, when the exchange of knowledge, ideas, goods has intensified. The Croatian language makes no exception. During its development, Croatian medical language has passed through different phases. Based mostly on Latin and Greek, Croatian medical terminology has changed and enriched during the history. Foreign terms denoting new medical discoveries were adopted into the Croatian language but were strongly opposed by language purists. Their attempts varied throughout the history, from extremely severe to moderate nowadays.

While in the previous centuries Croatian language was influenced by German, Italian, French, Hungarian and Turkish, during the last several decades it has been invaded by English. English terms are widely accepted in their original form and adapted to the Croatian language system. After some time, loan translations are created, but some of them never enter everyday usage.

The reasons for calque formation are different. Besides language purists’ attempts to resist the invasion of foreign/English words into

the Croatian language system, there is a care for preserving language and national identity. It could be achieved by standardized language and terminology. For this reason, the project Struna (strukovno nazivlje) started in 2008 at the Institute for Croatian Language and Linguistics with the aim of terminology standardization. So far, twenty-three terminologies have been standardized, out of which five belong to the field of medicine. While speaking about linguistic factors, semantic transparency plays a major role, as morphologically complex Anglicisms are frequently unknown to native speakers. Thus, they are replaced through calques, which reduces the cognitive load as calques usually converge with the morphosyntactic norms of the native language (González & Knospe, 2019). Provided that the equivalent is semantically transparent and supported by a sociolinguistic setting generally in favour of calques, it has a chance to replace a loan word.

The aim of the paper is to analyse calques in Croatian medical language and to confirm their importance in the enrichment of medical terminology. Our research will focus on lexical, syntactic and semantic calques.

At the beginning, it is necessary to refer to the result of two processes related to language contacts – *borrowings* and *calques*.

2. Borrowings vs. Calques

Borrowings and calques are the result of cultural and language diffusion and represent different forms of complex linguistic borrowing process (Turk, 1997). Borrowings or loanwords are words adopted from a source language and incorporated into a recipient language without translation.

On the other hand, calquing is a linguistic term for the direct translation of the morphemic elements of a foreign word into the equivalent (semantically matching) morphemes in another language. In other words, the target language equivalent thus produced is modelled after the source word or phrase (Ali, 2005). A calque occurs when a loan element does not appear in its integral form in a receiving language but is replaced by a native term (Thomason, 2001). It represents conceptual replica – or its close model sign found in the donor language (Onysko, 2007). Johanson (2002) treats calques as semantic or semantic combinational copies of donor language

signs. Matras and Sakel (2007) regard calques as outcomes of a mode of pattern replication which they opposed to instances of matter replication. Mahmoud (2013) views calquing as a process that involves both borrowing and translation and results in the creation of new expressions.

While the terms *loan translations* and *calques* are used synonymously, Croatian linguists differ *loan translations* and *calques* as two separate categories. The term *calque* is less specified, i.e. covers wider range of meanings and it is used to name latent influences on the lexical, semantic and syntactic level. The term *loan translation* refers to latent influences on the lexical level when the lexemes created by calquing are named (Turk, 2013).

Calques seem to appear as the result of puristic attempts aimed to resist loan words importation and stimulate the recipient language to create its own words (Turk, 2013).

While the loan words are easily recognized despite of their phonological and morphological adaptation, calques are much more difficult to identify.

Many authors focused their research on calques (Babić, 1990; Betz, 1949; Clyne, 1972; Klajn, 1971; Muhvić-Dimanovski, 1992; Muljačić, 1968; Schumann, 1965; Turk, 1997). Some authors study calques in the context of language borrowing (Deroy, 1956; Haugen, 1953; Weinreich, 1953). Besides, some authors deal with the theoretical aspects of calques and others analyse them with respect to different languages.

Generally, linguists agree with the definition of calques, but they show a disagreement in their classification and typology, which results in terminological unevenness. In some studies, one term implies different types of calques, and vice versa the same type is referred to with other terms. Serious disagreement is noticed in "border types": semi-calques, semi-loan words and loan creations. On the other hand, there is almost no difference in defining some categories, for example semantic loans (Turk, 2013).

Opposing views reflect a narrower and broader understanding of calques. In a broader sense, a calque refers to all the influences of one language on another, where the external form is not preserved, but the internal structure of the foreign

expression is transferred. In a narrower sense, the calque is a category that is generally referred to as a literal loan translation and represents a complete replacement of an element from the donor language with native elements, according to the member-for-member principle, while the entire foreign content is accepted.

In the following chapter we will explore typology and classification of calques in literature and we will discuss the typology used in this research.

3. Typology of calques

The general classification follows the linguistic levels at which calquing is realized. Thus, lexical calque, semantic calque and syntactic calque are distinguished, and each of these broader categories includes certain subcategories.

We will make a short review of calque classifications proposed by different linguists.

Betz's classification (1949) of calques served as a model to numerous linguists in their attempts to classify calques. Betz distinguishes six main categories, some of which include subtypes. Those six main groups can be classified into two basic groups: formal meaning creation and another non-homogeneous group for which no name is proposed. The following types belong to the first group:

1. Literal translation refers to faithful creative and meaningful copying of the model.
2. Partial translation refers to the partial transfer of a creative model or meaning.
3. Formally induced neologism denotes a new creation created under the influence of a foreign model in which the model is not imitated, but a new expression is created independently.
4. Semantic borrowing refers to giving a new meaning to a native expression.
5. Phraseological calque, where idiomatic phrases are translated word-for-word.
6. Syntactic calque refers to the acceptance of new syntactic forms.

This model was followed by Weinrich (1953) according to whom in a calque (loan translation) the model is reproduced exactly, element by element. He defines lexical calques as reproduction in terms of equivalent native words. He differs loan translation proper, loan rendition, loan creation and semantic loan. Weinreich differs a type of semi-calques in which one part is taken over and the other is calqued and refers to it as hybrid compound.

Jernej (1973) classifies calques into three groups: lexical calque, phraseological calque and syntactic calque.

Sørensen (1982) distinguishes hybrid loan, translation loan and semantic loan.

In his classification of calques, Gusmani (1983) differs structural calques which include literal calques and partial calques, semantic calques, syntactic calques, phraseological calques and morphological calques.

In more recent studies, linguists have different views on this matter. Görlach (2004) and Walsh (2016) divided calques into four types: loan translations, loan renditions, loan creations and semantic loans.

Ali (2005) focuses on identifying types of calques and assessing their role as a word-formation process in Modern Standard Arabic (MSA). The study is limited to terminological calques, but also touches upon some verbal phrases and expressions. The author identifies seven types of lexical (terminological) calques: full calques, partial calques, semantic calques, foreign-included neologisms, compound calques, hybrid calques, acronymic calques. He concludes that there is a strong tendency in MSA to avoid using loan words and instead uses native words through calquing to form new lexical items. Smith (2006) suggests five categories: semantic calque, phraseological calque, syntactic calque, loan translation and morphological calque. Another recent typology belongs to Larizgoitia (2010), who speaks about semantic, lexical, lexical-phraseological, lexical syntactic, phraseological, morphosyntactic and discourse calques. The author concludes that particularly in Basque and languages in a similar minority status, since the descriptive character of lexical calques makes them well suited for technical terminology and good way to avoid excessive surface borrowing.

Mahmoud (2013) investigates the influence of English as a foreign language on MSA from a linguistic perspective. He identifies calquing as one of seven types of structural or lexical manifestations of influence. According to the author, some calques take some time to integrate into MSA and thus make language sound foreign and sometimes in comprehensible to monolingual users of MSA.

Sandiuc (2018) draws a typology of calque but covers only certain types of calques present in the Romanian maritime terminology. The author explores lexical calque, semantic calque, phraseological calque and grammatical calque. The author concludes that most of the linguistic calques existing in the Romanian maritime vocabulary are lexical in nature.

González and Knospe (2019) investigate the variation of calques in European languages, especially Spanish and German, which show structural differences and reflect different attitudes towards English. Their study ranges from the factors favouring the coinage of calques to variations in their use and challenges concerning their identification. The study includes examples to identify the main patterns and trends in calquing.

Giaber (2023) explores the nature of lexical calques presenting from English-Arabic translation, identifying the lexical, cultural and cognitive implications of English-based lexical calques for MSA and its users. He investigates the views of native users of Arabic over the cognitive impact of lexical calques as loan translations in Arabic. The author concludes that lexical calque is a productive method of word-creation but has a strong power for framing the cognition of target language users.

In Croatia, Muhvić-Dimanovski (1992) analysed different categories of loan translations and compared them in different authors. In determining calques in the Croatian language, the author used criteria based on the morphological and semantic components of the sample and calques.

Turk (2013) also described calquing in theory and practice and supported the theoretical framework with examples from her own material.

Based on the review, we can conclude that calque-related terminology varies among authors. Some authors have general classification of calques and consider only a limited number of

broader categories. Others show more detailed classifications. The main disadvantage of the first approach is the lack of accuracy and unnecessary complexity of the second approach blurs transparency.

Our classification of calques is based on the specificity of the Croatian language of medicine. In our research we distinguish three main categories of calques: lexical, syntactic and semantic calques. Each of them is further divided in subcategories and we will briefly discuss each of them.

1. Lexical calques

A lexical calque is a new word created within a language under the influence of an external model (Betz, 1949). When the target language calques a foreign word, it uses its own formal resources to recreate a complex word in the source language—the language that supplies the pattern (Gomez Capuz, 1998). Gusmani (1983) observes that the foreign model needs to meet two conditions:

1. It must consist of more than one morpheme (bee polymorphemic), with a structure that is easily analysable,

2. It must also have a descriptive meaning, that is a meaning that is obtainable as the sum of its component parts.

In lexical calques, the way of transferring a foreign form can be complete, partial, or free. According to the way of transmission, literal translations, semi-translations, formally induced neologisms, partial translations, and phraseological calques are distinguished. We must note that the latter are not found in medical terminology, and therefore we will discuss the first three categories.

1.1. Literal lexical calques

In a literal lexical calque (loan translation), which shows the greatest faithfulness to the model by translating each of its components exactly, each morpheme of the model is translated using the closest equivalent morpheme in the target language (Lewandovski, 1990).

In literature, the views on literal loan translations were different. Some authors do not mention them explicitly, others mention them, but they differ from each other in their way of understanding literalness. For some authors, literal transmission refers only to the level of content, and

for others both to the level of content and the level of expression (Turk, 2013).

Muhvić-Dimanovski (1992) summarized the features of literal loan translations presented in the literature:

1. Complete substitution of elements from the source language with native elements,
2. Translation of a foreign model element by element,
3. Taking over the grammatical scheme and meaning, while replacing foreign morphemes with the native morphemes,
4. Expressing the “internal form” of a foreign word or expression by means of one’s own language,
5. Linear substitution of phrases from the donor’s language that can be analysed morphologically,
6. Combination of signs that already exist in the target language according to a foreign model.

The author concludes that with literal translations, it is important to adopt the complete content, which is then expressed in the recipient language with native elements.

1.2. Semi-calques

Although the term *Semi-calque* does not commonly appear in foreign linguistic literature, it is frequent among Croatian linguists. Semi-calques (semi-translations) are lexical forms in which a part of the expression is preserved in its original form (the original form is phonologically, morphologically and orthographically adapted, but recognizable as foreign), and the other part is literally translated. It is a borderline form between a loanword and a literal translation.

Considering the dual character of the acquisition, the term semi-loan word is used for this type of lexical transfer. It is a widespread type and numerous authors have dealt with this kind of calque. Many authors do not separate them from the wider group of hybrid compounds and use the terms *hybrids* or *hybrid compounds*. Other authors consider semi-calques to be a separate category. If the terms emphasize the untranslated,

i.e. borrowed part, in the literature they are called *semi-borrowings* (Muljačić, 1968). Terms that emphasize the translated element are recorded in the literature as semi-calques (Babić, 1986; Muhvić Dimanovski, 1992; Turk & Pavletić, 2001).

Semi-calques and hybrid compounds are very close but cannot be identified.

In defining these type of concept, Muhvić-Dimanovski (1992) starts from the criterion that if a foreign component appears in connection with any native one, then it is a hybrid loanword, and if the native component is a literal translation of one of the elements of the foreign model, it is a semi-calque.

1.3. Loan creations

Loan creation is a type of lexical innovation characterized by the creation of new words for a foreign term completely independent of the foreign model, as far as the formal side is concerned, whereby units are freely chosen from the native lexical inventory.

While speaking about this category, some authors are in doubt whether it is really a formally loan creation or a partial loan translation. Since partial loan translations also move away from the model, the question is whether a multi-word expression, which contains at least one model element, should be considered a partial loan translation or a loan creation (Muhvić-Dimanovski, 1992).

Some authors believe that this category should be excluded from loan translations, because a foreign model is not imitated here, but a new word is created completely independently of a foreign term (Babić, 1990; Lehnert, 1986; Schumann, 1965; Viereck, 1986).

Dabo-Denegri (2007) states that loan creations are not expressions that are motivated by cultural innovations, but the need to find appropriate expressions instead of those that exist in other languages.

2. Syntactic calque

Indirect borrowing is focused on the lexical area, but some influences can be noticed on the syntactic level. Most authors agree that the influence of one language on another is lesser at the grammatical level than the influence at

the lexical level. Other authors even doubt the possibility of a visible influence at the grammatical level because morphology and syntax are resistant parts of the language system (Turk, 2013). If such influences exist, they are difficult to determine and distinguish them from autonomous innovations. In a review of authors who study the possibility of foreign language influence on syntax, Turk (2013) states that many authors refuse the possibility of foreign language influence at the syntactic level and opt primarily for the independent development of syntactic phenomena in several languages. Others advocate the opposite opinion and use specific examples to prove the possibility of such an influence.

Croatian authors share similar views. Franolić (1979) believes that the influence of a foreign language on the syntactic level affects the fundamental structures of the recipient's language. The author thinks that it is precisely at the syntactic level that one should intervene in the defence of the recipient's language. Interferences at the syntactic level are manifested in the form of calques. Filipović (1986) mentions that the syntactic aspect of linguistic borrowing is based on direct borrowing. Muhvić-Dimanovski (1992) also believes that in the Croatian language there are some syntactic calques of German origin, which is a consequence of direct contact between the two languages, and such examples are more common in the substandard language.

In contrast, Dabo-Denegri (2007) maintains that syntactic calques are very rare in conditions of indirect contact between languages, so this refers to the possibility of syntactic calques in Croatian according to the French model.

In this category, the authors classify prepositional constructions and juxtaposition, which was previously known in Croatian, primarily due to the Turkish and German languages, and which intensified under the influence of the English language. Škara (1987) claims that the English language, although it did not introduce this innovation, certainly contributes to the sudden spread of this phenomenon.

3. Semantic calque

A semantic calque refers to a native word that has gained a new, additional meaning under the influence of a foreign word. Usually this means that the words meaning is broadened. Widening is

one productive means of creating new words in any language and terminology.

All authors who deal with calquing consider semantic calque and all agree with its definition. It is characteristic of semantic calque that new meanings are added to existing words in the recipient language under the influence of another language. Many authors refer to them as semantic borrowings or meaning borrowings (Turk, 2013).

In most cases, both the old and new meanings are used simultaneously, but sometimes the old meaning disappears from use. Some German linguists take a different view. They emphasise the similarity between semantic loans and semantic calques (Hofler, 1989), especially in terms of the transfer-mechanism. In both cases, a word in the source language lends one of its senses to a (conceptually or both conceptually and formally) corresponding word via metaphor or analogy. However, it seems to be a significant difference between a semantic loan and a semantic calque (Gomez Capuz, 1998), in that the latter generally involves a greater degree of deliberateness and artificiality and mainly occurs in translations. Semantic loans appear more natural and involve less conscious effort and occur spontaneously among bilingual speakers (Gomez Capuz, 2005).

Although the authors may disagree with the classification of calques, they underline the problem of their identification.

4. The problem of identification of calques

While speaking about loans and their identification, there is no doubt. They are mostly recognized as foreign words, although many of them fit well into the phonological and morphological system of the Croatian language. However, when we speak about calques, regardless of different approaches to the problem, the authors generally agree that determining calques is a much more difficult process than determining loanwords and requires a good knowledge of both languages.

Muhvić Dimanovski (1992) considers that the possibility of incorrect identification and assessment of calques is much greater because they are structures composed of native elements. Each calque is a potentially native form to which a foreign model provides a stimulus for realization. Carstensen (1979) claims that the latent influences

of one language on another are more difficult to detect than the evident ones, so it is difficult for a German speaker who does not speak English to recognize newer calques as expressions created by reproduction of English models. According to him, the problem of identifying calques is much more difficult than the identification of loanwords: they are easily overlooked and not recognized, or many expressions that arose in a language without external stimulus are considered calques.

During our research, we were also in doubt whether a certain expression should be considered a loan translation or not. Namely, in medical terminology, in the absence of an adequate Croatian equivalent, authors very often use definitions of certain terms, which can easily be identified as loan translations, even though they are not. Loan translations in the Croatian language are often multi-word expressions that, due to their length, do not fit well into the system. The appearance of longer and complex expressions or an attempt to convey the meaning element by element may indicate a loan translation.

Loan translations can be identified in various ways, such as the use of prepositional constructions, the juxtaposition of two nouns, the appearance of the same term in several languages, the mentioning of the original expression with the loan translation or using a foreign word in quotation marks. These two last cases are very often recorded in medical texts.

Klajn (1971) states that only forms that are not in the “spirit of the language” are considered calques, because this violates the principle of accepting only what corresponds to the system. As an important linguistic criterion in the identification of calques, the segmentation of the linguistic unit is considered.

In the previous chapters we focused on the theoretical background of calques, and in the following text we will present the results of our research.

5. Study analysis

This study is a descriptive analytical one based on the investigation of a corpus including Croatian medical publications.

5.1. Aims and methodology

The aim of the research is to investigate

calquing as a productive means of creating terms in Croatian medical terminology.

This is a corpus-based analysis whose methodology assumes an approach according to which previous theoretical assumptions are verified with examples from the corpus. To verify the examples, the terminological database *Struna* was used in the paper. Examples were collected manually from medical publications. Texts were thoroughly read, and the adequate examples were extracted. The corpus for analysis can be classified as follows: medical scientific books (2), scientific-professional journals (4) and professional-popular magazines (2). More precisely, the medical publications *Molecular Biology in Medicine* and *Cellular and Molecular Immunology* are scientific books and translated editions of original English publications, with a glossary of definitions and terms at the end. It is the author's approach, which led to the creation of loan translations. The journals included in this research publish articles in the Croatian language and are published several times a year. Scientific and professional journals are available in the database www.hrcak.hr. The scientific and professional journals included in the research are as follows: *Medicina fluminensis*, the journal of the Croatian Medical Association and the Faculty of Medicine of the University of Rijeka, *Liječnički vjesnik*, the journal of the Croatian Medical Association, *Acta medica Croatica*, the journal of the Croatian Academy of Medical Sciences, *Paediatrica Croatica*, the journal of the Croatian Pediatric Society and the Croatian Society for School and University Medicine, as well as the professional popular magazines *Medix*, a specialized magazine for the professional medical public, and *Narodni zdravstveni list*, a magazine of the Teaching department for Public Health of the Primorje-Gorski Kotar County. A representative sample, specific to the field of biomedicine and healthcare, was selected for the purposes of the work. Examples illustrative of calque typology were selected and classified into several categories. The analysis belongs to the qualitative type as the most suitable for this type of research.

5.2. Results and discussion

In addressing the typology of linguistic calque, we will focus on the categories representative of Croatian medical terminology, theoretically discussed in the previous chapter. Some of these categories are further subdivided depending on the type of structure and the degree of imitation of the source item.

5.2.1. Lexical calques

5.2.1.1. Literal lexical calques

In the research, we recorded literal loan translations, but sometimes we were in a dilemma about their classification.

We will mention examples recorded in the corpus:

- 1) *gensko skretanje* – Eng. *genetic drift*
- 2) *maksimalna koštana masa* – Eng. *peak bone mass*
- 3) *pogrešna sparivanja* – Eng. *mismatches*
- 4) *neposredno rani geni* – Eng. *immediate early genes*
- 5) *pomagački limfocit T stanice* – Eng. *helper T cell*
- 6) *protusmisleni RNK.* – Eng. *antisense RNA*
- 7) *bolest mačjeg ogreba* – Eng. *cat-scratch disease*
- 8) *bolest poljupca* – Eng. *kissing disease*
- 9) *ciljni lijek* – Eng. *target drug*
- 10) *računalno podržavana kirurgija* – Eng. *computer assisted surgery*
- 11) *sindrom ukrućenog čovjeka* – Eng. *stiff-man syndrome*
- 12) *stanica ubojica* – Eng. *killer cell*
- 13) *visinska bolest* – Eng. *altitude sickness*
- 14) *željezna pluća* – Eng. *iron lung*

Furthermore, in medical texts we notice loan translations introduced with *tzv.* (so-called) to indicate the original English term:

- 15) ... početi terapiju lijekovima koji imaju najveću učinkovitost dokazanu u epidemiološkim i kliničkim istraživanjima (*tzv. evidence based medicine – medicina temeljena na dokazima*).

In the next case, the original English term is put in parentheses, but it continues to be used in the text regardless of the existence of the Croatian term.

- 16) *okidači (trigger) glavobolje su rjeđe zastupljeni, a najčešći trigger je nedostatak spavanja.*

In some cases, the English term is marked with quotation marks indicating its English origin, for example:

- 17) *...manje od 5 na 10000 ljudi. Takvi se poremećaji nazivaju bolesti siročadi („orphan diseases“) zbog toga što su prerijetki da privuku veći interes istraživača.*

However, although in this case it is a literal translation, this example needs a brief review. Namely, in this case we are not talking about diseases affecting abandoned children (as the name itself suggests), but about diseases that rarely appear, and with the aim of avoiding ambiguity, we suggest using the loan creation “rijetke bolesti” (rare diseases).

We also recorded prepositional constructions:

- 18) *hormon za oslobađanje gonadotropina – Eng. gonadotropin-releasing hormone*
19) *nabor za vezanje nukleotid – Eng. nucleotide binding fold*
20) *dijabetes ovisan o inzulinu – Eng. insulin dependent diabetes*

5.2.1.2. Semi calques

Semi-calques are also recorded in medical language. We classified them according to the order of native and borrowed elements, considering whether the foreign element is morphologically adapted or non-adapted.

a) Semi-calques or two-word expressions in which the native element is found in the first place, and the foreign element in the second place, for example:

- 21) *obojeni dopler – Eng. colour doppler,*
22) *slobodni radikali – Eng. free radicals,*
23) *stečena imunodeficijencija – Eng. acquired immunodeficiency,*

b) Semi-calques or two-word expressions in which the foreign element is in the first place, and the native element in the second place.

1. Adapted foreign element + native, for example:

- 24) *ultrazvuk – Eng. ultrasound,*
25) *asistirana oplodnja – Eng. assisted insemination,*
26) *informirani pristanak – Eng. informed consent,*
27) *genetski modificirana hrana – Eng. genetically modified food,*
28) *test probira – Eng. test screening test,*
29) *kontaktne leće – Eng. contact lenses.*

2. Non-adapted foreign element + native, for example:

- 30) *marker gen – Eng. marker gens,*
31) *balon kateter – Eng. balloon catheter,*
32) *booster cjepivo – Eng. booster vaccine.*

However, in some cases there is a doubt as to whether the mentioned examples should be considered literal translations or semi-calques because they are formed from loanwords that were accepted a long time ago and function as native words, for example *test, reprodukcija, sindrom, kontakt, modificiran, asistiran*, etc. A similar doubt is shared by Dabo-Denegri (2007) who says that if we adhere to the principle that the foreign element was transferred, i.e. not replaced, then such structures should be considered semi-calques.

5.2.1.3. Loan creation

In medical language, we record a certain number of examples that belong to this category, for example:

- 33) *stanje prilagodavanja u novoj zoni – Eng. jet lag.*

Anić and Goldstein (2009) define “jet lag” as “insomnia syndrome that occurs in airplane passengers after crossing several time zones.” In the English-Croatian medical dictionary, *jet lag* is defined as “disorder of biological rhythms due to a change in time zones”. It is evident from the example that the terms can be interpreted in various ways.

34) *glavobolja uzrokovana hladnim stimulusom* – Eng. *ice-cream headache*

35) *kontakt koža na kožu* – Eng. *kangaroo care*

In this case, it is a term used in perinatology (Eng. kangaroo care) that denotes a close bond between mother and child after childbirth. We also recorded the literal translation “klokanska skrb” (kangaroo care). Only from the context with a more detailed explanation the meaning of the term becomes clear.

36) *atipična kuga peradi* – Eng. *Newcastle disease*

The original English term expresses the place of appearance of the disease, while in Croatian it is freely created.

37) *atipična upala pluća* – Eng. *severe acute respiratory syndrome (SARS)*.

This neologism is very often used instead of the literal translation “teški akutni respiratorni sindrom” (severe acute respiratory syndrome). The neologism was created according to symptoms and similarities with other diseases.

38) *dovoljna opskrba hranom* – Eng. *food security*

Since the literal translation of the English term is not clear enough and does not correspond to the original term (food safety), a loan creation was created by free translation. We mention the following examples in which the native term is freely formed.

39) *dječja bolnica-prijatelj djeteta* – Eng. *baby friendly hospital*

40) *najnužnija skrb* – Eng. *comfort care*

41) *transfuzijsko praćenje* – Eng. *hemovigilance*

As can be seen from the examples, lexical calques are effective source of new medical terms.

5.2.2. Syntactic calque

Examples of syntactic calque are also present in medical language, and we record examples of juxtaposition that is common in medical texts:

42) *prostata specifični antigen* – Eng. *prostate specific antigene*

43) *laser akupunktura* – Eng. *laser acupuncture*

44) *stres fraktura* – Eng. *stress fracture*

45) *balon-kateter* – Eng. *balloon catheter*

The above examples were created under the influence of the English language. However, since the formative type of juxtaposition is not appropriate to the Croatian language, it should be replaced with an adjective and a noun wherever possible.

We also notice the following construction based on English:

46) *reakcija bori se ili bježi* – Eng. *fight or flight reaction*

Generally, calques follow the structure of the target language and are subject to its rules so that language specificity cannot be changed. However, Seidel (1958) notes that almost every part of the structure of a language can be imitated.

5.2.3. Semantic calque

We will mention examples from medical language:

47) *genetski inženjering* – Eng. *genetic engineering*

The term *inženjering* (Eng. *engineering*) expressed “a set of activities aimed at the rational and functional design of buildings or technical and industrial facilities”. However, this term has acquired an additional meaning, which refers to “the branch of biology that deals with the selection of genetic properties of an individual for the purpose of controlled breeding”.

48) *nova generacija antihistaminika* – Eng. *new generation of antihistaminic*

The basic meaning of the word *generacija* (Eng. *generation*) is “a group of individuals who have the same ancestor and represent one generation”, so it refers to people. The new meaning refers to the level of technological development and includes “all that belongs to the same time of appearance”.

49) *banka krvi* – Eng. *blood bank*

The basic meaning of the word *banka* (Eng. *bank*) is “an institution that mediates money transactions, takes savings deposits, circulates

loan capital and otherwise operates on the money and securities market". The additional meaning of the term is "a place where something is stored for a specific purpose". We also record

50) *banka genetičkog materijala* - Eng. *the bank of genetic material*

51) *banka matičnih stanica* - Eng. *the bank of stem cells*

52) *DNK* - *knjižnica* - Eng. *DNA library*

The term *knjižnica* (Eng. library) means "an institution where books are borrowed". In a new meaning in molecular biology, this term refers to "a set of cloned DNA fragments of a certain source", in other words *genoteka* (Eng. a gene library).

53) *kultura krvi* - Eng. *blood culture*

The meaning of the term *kultura* (Eng. culture) is "all material and spiritual goods, ethical and social values, which have been created by mankind". The new additional meaning refers to "microorganisms planted for research purposes". We also recorded

54) *kultura bakterija* - Eng. *bacterial culture*.

55) *plastična operacija* - Eng. *plastic surgery*

The adjective *plastični* (Eng. plastic) refers to something that is "made of plastic". Under the influence of English, the adjective *plastic* expanded its meaning, and *plastična operacija* (Eng. plastic surgery) expresses "a surgical procedure that replaces lost tissue or removes aesthetic defects".

56) *tumor marker* - Eng. *tumour marker*

The word *marker* (Eng. marker) refers to "an object that serves as a sign", while in the medical terminology under the influence of English, it acquired a new meaning "a substance, most often a protein that is produced to a greater extent by tumour cells, and sometimes, in response to tumour growth and the cells of our body".

57) *shotgun kloniranje* - Eng. *shotgun cloning*

Šotgan (Eng. shotgun) means "a rifle with a short, smooth barrel that ejects a large number of bullets". In the medical terminology of genetics, this term is used to denote the "rapid DNA sequencing technique".

58) *pametni lijekovi* - Eng. *smart drugs*

The adjective *pametnan* (Eng. smart), whose meaning is "having the ability to reason", under the influence of the English language, acquires a new meaning "targeted therapy that precisely acts on changes in cancer cells that cause their growth, division and spread". In this case, we are talking about medicines whose action is strictly directed and with no additional side effects.

59) *tiha bolest* - Eng. *silent disease*

In this case, it is an insidious disease that occurs and progresses without obvious symptoms.

60) *gama nož* - Eng. *gamma knife*

In this case, it does not refer to a knife as a hand tool for cutting and sawing but refers to "a high dose of precisely directed radiation".

61) *kolesterol, ubojica našeg vremena* - Eng. *cholesterol, modern killer*

The word *killer* is used for a person who takes another person's life. However, in this case, it refers to a substance that accumulates in blood vessels over the years and leads to their blockage. The process is long-lasting, without any symptoms that indicate the disease, but the outcome can be fatal.

As can be seen from the examples, many terms that are subject to semantic calquing are transferred from common language to medical language, usually through a metaphorical or metonymic transfer, thus facilitating contact between different fields.

6. Conclusion

In this paper we analysed calquing as a productive means of medical terms creation. Borrowings and calques are the most evident result of language contact. It is inevitable nowadays due to the globalisation process which affects different professions and languages for special purposes as well.

Calquing consists of the copying by translation and substitution of a foreign term. In other words, reproducing the meaning of an item in another language through imitation using signifiers and structures from the target language. A calque is the consequence and product of

calquing. In our study the following types of calques are distinguished: lexical, syntactic and semantic calques. Lexical calques are the most frequent. In this type we distinguish literal calques (maksimalna koštana masa, gensko skretanje), semi calques (ultra zvuk, asistirana oplodnja), loan creations (atipična upala pluća, kontakt koža na kožu). Syntactic calques are evident in juxtaposition (stres fraktura, prostata antigen). While speaking about semantic calques, we confirm the change and widening of meaning of already existing terms in Croatian language under the English influence (genetski inženjering, banka krvi). Calques are also the main defence against overwhelming loan words which are widely accepted. The study confirmed calques as a precious source of new medical terms.

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- Acta Medica Croatica, časopis Akademije medicinskih znanosti Hrvatske.
- Medix, specijalizirani časopis za stručnu medicinsku javnost.
- Narodni zdravstveni list, časopis nastavnog Zavoda za javno zdravstvo Primorsko-goranske županije.

ORIGINAL RESEARCH PAPER

POLITICALLY CORRECT ENGLISH LANGUAGE AND GENDER IN BOSNIA AND HERZEGOVINA

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ABSTRACT

In the present study, we investigated the responses provided by Bosnia and Herzegovina's male and female respondents in regards to their usage of politically correct English language across various categories. Those categories include gender, disability, age, work, socioeconomic status, and race terminology. We hypothesized that significant differences would be present between respondents based on their gender. As the results suggest, female respondents were more inclined to use politically correct terminology in comparison to their counterparts, male participants. The distinctions were found to be present in all categories but mostly related to gender, where female respondents showed a higher preference for politically correct English language, while male respondents showed a tendency to select less politically correct English language terminology. Furthermore, categories related to disability and race showed mixed results to some extent. Therefore, we conclude that the findings point towards the importance of comprehending gender-specific tendencies when it comes to the adoption and usage of politically correct English language, as such differences can have significant influence on inclusion and communication within varied social and formal contexts.

Keywords: politically correct language, English, gender



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1. Introduction

As political correctness and politically correct language have gained attention from various disciplines over the last several decades, it has become a widely researched topic. The Global North has witnessed a large body of research on the topic, a natural phenomenon considering that its origins are drawn to the USA. Thus, the research focuses primarily on politically correct English, given its global influence and the prevalence of English-speaking academic and media institutions. However, there is also significant research on implementing politically correct language and its unique adaptations within native languages worldwide, exploring how local cultural, social, and linguistic contexts influence the development and acceptance of politically correct terms and practices in non-English-speaking regions and the Global South. In this sense, the Balkans region, more specifically Bosnia and Herzegovina (B&H), has also undergone exploration of the interconnectedness of the Bosnian/Serbian/Croatian Language and political correctness in a broad sense. However, the politically correct *English language* usage within this English as a Foreign Language (EFL) setting is still under-researched.

Therefore, this study aims to bridge this notable gap and explore an aspect of the politically correct English language in B&H. In this Global South country, English has a strong foothold and plays a vital role in different walks of life, such as educational settings, business, etc. (e.g., Brdarević-Čeljo & Dubravac, 2022; Dedović-Atilla & Dubravac, 2022). More specifically, exploring how different genders engage with rhetorical sensitivity in English-spoken contexts within the country's unique socio-cultural setting was the focus of this study, as the previous global and local research has pointed toward the differences in male and female speech. Thus, we assume that these differences might also reflect on the politically correct terminology used.

To achieve this aim, 150 participants, including students and educators from Bosnian international universities and high schools, were recruited. The recruitment of participants from international educational settings was intentional, as they are enrolled in English as a Medium of Instruction (EMI) programs and thus provide a natural pool to explore politically correct English language usage.

We hope the current study will provide valuable insights into the dynamics of political correctness of the English language within Bosnian

society, specifically in terms of comparing the usage between genders. It will add to the expanding research on gendered communication studies in this region that has not delved into this specific research topic. We expect that the findings will be helpful to individuals and educators across the disciplines researching the phenomenon, as well as educational policymakers and curricula planners alike.

2. Literature review:

2.1. Defining Political Correctness

According to Collin's Dictionary, political correctness today is "demonstrating progressive ideals, especially by avoiding vocabulary considered offensive, discriminatory, or judgmental, especially concerning race and gender." As language is seen as a means to accomplish more than merely communicate, political correctness is essential in showing respect towards others. It is not easy to trace the very first coinage of this term, as there are different accounts for the exact date of its origin. It is generally linked to the mid-20th century in the United States, gaining significant traction during the 1970s and 1980s. It is believed that 'Caren de Crow, president of the National Women's Organization in 1975, first introduced the concept of "political correctness"; others attribute the term to 1793 when the Supreme Court of the United States heard the case of *Chisholm vs. Georgia*' (Monashnenko et.al. 2021, p.150). At this time, marginalized groups started objecting to derogatory and exclusionary language, which enforced social inequalities (Cameron, 1995). Feminists, in particular, played a central role in the promotion of gender-neutral language as they argued that traditional usage of language fostered gender stereotypes and biases (Pauwels, 1998). Overall, it is clear that it emerged from social movements advocating for civil rights, gender equality, and the rights of marginalized groups to promote inclusive, non-discriminatory language that respects and acknowledges the diversity and dignity of all individuals. The concept was influenced by earlier efforts to address social injustices through language reform and has evolved to address a wide range of social issues and sensitivities in public discourse (see more in Allan & Burridge, 2006; Hughes, 2010).

From its very inception, the construct has had its proponents and critics. Thus, the advocates (e.g., Cameron, 1995; Fairclough, 2003; Maass et al., 2013; Wood, 2011) often emphasize its positive aspect, perceiving it "as a way to refrain expressions, attitudes, and actions encouraging

the marginalization or exclusion of a person or a group based on their cultural, racial, ideological, or any other particular characteristic considered as relevantly different" (Avery & Steingard, 2008, p. 270). Substantial empirical research supported the benefits of this stance, with a study finding that participants exposed to gender-neutral job titles were more likely to perceive women as suitable for leadership roles (Horvath & Sczesny, 2015). Similarly, it is noted that gender-fair language could reduce implicit gender biases in children (Sczesny et al., 2016). Conversely, critics state that the concept can lead to censorship and stifle free expression (e.g., Hughes, 1993), that it distracts from real social issues (Slovenko, 2007), i.e., can be perceived as insincere or tokenistic if not accompanied by genuine efforts to address underlying social inequalities, or is against "linguistic sanity" (Kreeft, 2005, p.36).

Finally, as the findings of the studies are mixed and thus ambiguous, many scholars adopted a balanced and more nuanced approach, recognizing both its benefits and less positive implications or pitfalls (e.g. Allan & Burridge, 2006; Drury, 1996). Thus, Gallina (2016) has an interesting insight stating that freedom of speech is left to people when a community has determined what it does not want to hear in advance. Regardless of the stance, the topic has been widely researched and discussed in various domains and contexts, with two theoretical frameworks being most prominent in this pursuit.

First is the Sapir-Whorf hypothesis - the theory suggests that thoughts and perceptions of human beings can be easily shaped just by using certain kinds of words that may be all-inclusive (Whorf, 1956). This perspective implies that altering languages broadens social identity dialogue, thus fuelling requisite social change. Another crucial theoretical contribution made towards politically correct language is Critical discourse analysis (CDA). Among others, Fairclough (2001) has argued that political correctness challenges dominant discourses that marginalize some people. By promoting inclusive language, CDA attempts to make such power structures visible to dismantle them.

In conclusion, the political correctness phenomenon has evolved from its roots and developed into a multidimensional framework highlighting its potential advantages in fostering inclusive language, but its disadvantages too, concerning freedom of expression. The following section will shed more light on the interplay between political correctness, gender, and language, as this is the focus of the study.

2.2. Gender, Language, and Political Correctness

In the 20th century, we have witnessed an increased interest in the differences between women's and men's speech. Thus, gender and communication scholarly work has focused on the finding of the manner, type, and extent of differences in the communication behaviors of males and females, as well as the consequences of such differences and the causes of such distinctions. Deborah Tannen is one of the most innovative theorists in this subfield of gender and language use, significantly influencing our understanding of gender differences in communication styles. Tannen (1990) asserts that there are qualitative differences in the discourse between males and females and that "male" talk is best described as *report talk* while "female" talk can be aptly described as *rapport talk*. The former is information-exchange-driven and aims at asserting one's status, while the latter is about establishing and maintaining relationships.

The author Julia T. Wood (2011) also investigated the same phenomenon. It is argued that communication differences are products of cultural and societal norms, and men and women are expected to exhibit different communication features (Wood, 2011). To the above ideas, Kramarae (1981) also proposed the theory that she referred to as the muted group theory, whereby women are practically silent, or their voices are suppressed, marginalized, or less visible in communicational contexts that men dominate.

Regarding language and gender interplay specifically, Robin Lakoff is considered one of the pioneering sociolinguists who explored the link more deeply. Her work, *Language and Woman's Place* (Lakof, 1975) laid the groundwork for feminist linguistic analysis by highlighting how women's language use is often characterized by politeness, tentativeness, and a lack of assertiveness, which can perpetuate gender inequalities.

Sally McConnell-Ginet and Penelope Eckert also significantly contributed to the scholarly thought within this subdomain. In their work *Language and Gender* (McConnell-Ginet & Eckert, 2003), the authors present a detailed overview of the intricate relationship between language, gender identity, and the social structures of power. They stress that gender is performative and is shaped by people's linguistic choices and discursive pragmatics rather than inherent biological features. Additionally, Janet Holmes (2006) contributed to this field by focusing on gendered business communication, i.e., how gendered communication occurs in the workplace

and impacts the promotion and organizational experience.

Newman et al. (2008) also conducted an extensive analysis of 14,000 text samples to find and identify gender differences in language use. They found that women and men use language differently. Women use more words related to psychological and social processes, while men often refer to object properties and impersonal topics. This further suggests that gender does influence language, but rigid norms do not necessarily constrain individuals and may exhibit a range of language behaviors (Newman et al., 2008).

At this juncture, it is essential to mention the interesting typology (relevant to the study) of languages being divided into grammatical gender languages, natural gender languages, and genderless languages (Prewitt-Freilino et al., 2011). Examples of the first are German, French, or Croatian, the second is English, while Turkish or Finnish are genderless languages. The three categories' differences reflect linguistic trends that share their initial purpose. In natural gender languages, there is a trend towards reducing gender-specific terms. Conversely, in grammatical gender languages, there is a trend towards introducing more gender-specific terms (European Parliament, 2009). Both trends can be interpreted as "politically correct since their goal is to modify the existing language and create a more "gender-fair" language". (Pogrmilović, 2019, p.119)

When it comes to politically correct language and gender specifically, it is essential to note that the tendency for the usage of politically correct terminology was actively supported by feminists who fought for women's rights in public and political life, including the possible linguistic discrimination. Feminists introduced such forms of address as Ms, which is neutral like Mr. and does not indicate a woman's marital status (Fahrutdinova et al., 2014). The 20th century was marked by women pursuing the same rights as men in diverse cultures and traditions. Thus, "in PC language, this is seen in changes to job titles, such as policeman, postman, and chairman, which now commonly go by the gender-neutral titles police officer, letter carrier, and chairperson or chair" (Li-na, 2018, p.67)

Advocates of non-sexist usage denounce terms such as male nurse, female doctor, or male model because these terms, in their opinions, are used gender irrelevant. They emphasize that "the statement carries the exception, implying the worker of that gender is somehow inferior or atypical of

that occupation." (Li-na, 2018, p. 67). Thus, gender stereotypes not only capture how men and women are expected to behave but also communicate how it is believed that they should behave (Prentice & Carranza, 2002), with some research indicating that women who behave in line with the stereotype are evaluated more positively than women who seem to challenge gender-stereotypical expectations (Eagly et al., 1994).

The research that has been done so far on exploring how men and women vary in their adoption and application of PC language mainly points towards women being more prone to its use. One of the early studies by Rubin and Greene (1991) examined how gender influenced the employment of inclusive languages. Women used gender-neutral terms more than men did, particularly in professional and academic domains, as found by these researchers. This behavior was associated with women's heightened attention to gender equality matters and understanding the influence of language on social perceptions. Additionally, Deborah Cameron's (1995) work on verbal hygiene showed that women tend to be more active in adopting politically correct language toward inclusiveness and challenging traditional power structures. This aligns with broader feminist objectives to achieve gender parity while resisting patriarchal norms. Swim, Mallett, and Stangor (2004) conducted a study examining gender differences in responses to sexist language. The results indicated that women were more able to recognize and respond negatively to sexism than males did through words. Furthermore, women also used PC language more often than their male counterparts as a means of countering this manifestation, highlighting a gender-based divergence in sensitivity to language that perpetuates stereotypes. Stout and Dasgupta's research (2011) also research demonstrated that women are more supportive of PC language policies and practices responded to the use of gender-exclusive language (he) during a mock job interview with a lower sense of belonging, less motivation, and less expected identification with the job compared to others exposed to gender-inclusive (he or she) or gender-neutral (one) language. Finally, Crawford and English (1984) found that men's recall of a text was better in the masculine and women's recall in the gender-fair language condition. This finding suggests that learning to use gender-neutral language involves more than overcoming linguistic novelty, as for men, it implies an unwelcome loss of their privileged position in language.

The studies that were conducted in the surrounding area of B&H also mirrored these findings, showing that there are differences between male and female speech in different contexts (e.g., Golub, 2022; Rinčić, 2018; Varošanec-Škarić et al., 2013).

In terms of the exploration of politically correct language and Bosnian/Croatian/Serbian Language, the studies are rather scarce and largely focus on gender inclusivity as the most prominently explored aspect of political correctness, with a few ones investigating the language of disabilities and ageism.

In this sense, Zlotrg has extensively written on the status of gender-related politically correct language, placing it in historical and geographic contexts. (Zlotrg, 2012, 2019, 2023). Additionally, Čaušević and Zlotrg (2011) created a Guidebook with guidelines on how to avoid discrimination in education, media, and legal context with a focus on gender-inclusive language (addressing the politically correct language in terms of disabilities and LGBTIQ population. Similarly, to determine gender sensitivity and equality in literary texts, Trifunović and Petrović (2014) conducted an analysis that found that after the year 2000, educational materials generally promoted gender sensitivity and respect for gender equality principles. Both female and male characters were portrayed with non-traditional traits. Therefore, the materials for studying the Serbian language convey socially accepted ideas about gender, emphasizing that school materials are a crucial part in developing gender traits in children, using books to communicate values and norms that promote gender equality. (Trifunovic & Petrovic, 2014) Others who explored gender-fair language in Bosnian/Croatian/Serbian Language include Begović (2015), Filipović (2011), Janušić (2008), Stevanović (2019), and Zahirović (2023).

Regarding the representation of people with disabilities in Bosnian/Croatian/Serbian languages, Ružičić (2004) and Ružičić-Novković (2014) provided valuable insights. Ružičić (2004) focused on the representation of people with disabilities in media discourse in Serbia. As the research had an aim to understand how media contributes to systematic discrimination, it was found out that the portrayal of people with disabilities often perpetuates negative stereotypes and does not help change attitudes toward individuals with disabilities. Ružičić-Novković (2014) also emphasized the gradual change in the Serbian language, with efforts that have been made to create a historical overview

of disability terminology and compile a dictionary to ensure proper and respectful language used in formal settings. Additionally, Matić and Stojan (2009) also explored how persons with disabilities are represented in the print media.

Bašaragin (2020) explored the link between ageism and language. The results showed that an anti-aging magazine ad, taken as a whole and in parts, advocates implicit and explicit intolerance towards aging (women) and that the use of offensive expressions for old persons is part of the patriarchal attitude towards them. The conclusion is that old age is a social construct of the patriarchal society that should be changed by young people.

However, as these studies mainly dealt with native languages and the surrounding countries and focused on gender differences in language use in general, it is clear that the use of politically correct English Language in B&H is highly under-researched. Moreover, the politically correct English language among individuals (and genders) using it has not been explored so far, highlighting the need for further research in this field.

3. Methodology

The present section will provide more detailed information regarding survey's participants, research question and hypothesis, instrument, and data collection and analysis.

3.1. Participants

The sampling size was 150 international university students and professors teaching in international high schools and universities from Bosnia and Herzegovina, out of which 64 were educators (42.6%) and 86 students (57.3%). Out of 150 respondents, 64% were female, and 36% were male respondents (see Table 1). Participants were also required to provide their age, and their responses were divided into four age groups: 20–24 accounts for 53.3% of the total respondents, or slightly over half of the sample, most likely made up of study participants' pupils (see Table 1). The next age group, which accounted for 32% of all participants, is 25–34. This group is followed by 35–44-year-olds (11.3%) and 45+ (3.3%). As shown in Table 1, 66% of respondents have been learning/using the language for more than ten years, and 26% of respondents said they have been learning/using English for six to ten years, strengthening their comments' relevance. Merely 5.3% of participants indicated that they have been using English for three to five years, 2% for one to two years, and 0.7%

for less than a year. These 8% of students most likely recently started their university paths.

Table 1:

Group descriptives regarding respondents' demographic information

Age		
Value	Frequency	Percent
20–24	80	53.3
25–34	48	32
35–44	17	11.3
45+	5	3.3
Status		
Value	Frequency	Percent
Educator	64	42.7
Student	86	57.3
Gender		
Value	Frequency	Percent
Female	96	64.0
Male	54	36.0
Educational Degree		
Value	Frequency	Percent
High School	74	49.3
Bachelor's degree	38	25.3
Master's degree	30	20.0
Doctoral degree	8	6
Time using English		
Value	Frequency	Percent
Less than 1 year	1	0.7
1–2 years	3	2.0
3–5 years	8	5.3
6–10 years	39	26.0
More than 10 years	99	66.0
English Level		
Value	Frequency	Percent
Poor	2	1.3
Fair	6	4.0
Good	17	11.3
Very Good	55	36.7
Excellent	70	46.7

In addition to the highly significant data on the amount of time respondents have dedicated to learning or utilizing the English language, another

piece of information is completing their educational degree. Among the students who took part in the study (refer to Table 1), 24,7% had a bachelor's degree, 20% had finished a master's degree, 6% had completed PhD studies, and 49,3% had completed high school education (university students). In terms of the participants' level of English language knowledge, 94.7% of respondents said they had decent English language proficiency, i.e. good (11.3%), very good (36.7%), or outstanding (46.7%) command of English language, while the minority of 5.3% participants assessed their knowledge as poor (1.3%) or fair (4.0%). The opinions of these students and teachers will help provide a nuanced picture of the state of PC English in this specific context.

3.2. Research Question and Hypothesis:

In order to fill this geographical and sociolinguistic gap, this study will attempt to answer the following research question:

RQ1: Is there a statistically significant difference between male and female respondents in using politically correct terminology across various categories, including gender, disability, age, work, socioeconomic status, and race, in Bosnia and Herzegovina's educational settings?

To answer the research question, the following hypothesis has been set:

H1: There is a statistically significant difference between male and female respondents in using politically correct terminology across various categories, including gender, disability, age, work, socioeconomic status, and race, in Bosnia and Herzegovina's educational settings.

3.3. Instrument

A quantitative approach was adopted to collect valuable insights that will be valid for the present research topic. A simple questionnaire (see Appendix) was distributed containing twenty-five questions: five related to respondents' demographic information and twenty related to the use of PC language concerning gender, disability, race, age, work, and socioeconomic status (see Appendix).

The first part of the questionnaire, demographic information, consisted of five questions in which participants were required to provide information regarding their age, gender, socioeconomic background, occupation, level of education, and proficiency level in English.

The next part of the instrument, i.e., the questionnaire (see Appendix), consisted of twenty questions to gather information on participants' language use in politically correct English, listed in six categories: disability, age, socio-economic status, work, gender, and race. The questions were formulated in a way where participants needed to select the term they usually use the most, and they were also provided an extra space to write their version if none of the given ones suited them. Among the given options, there were more and less politically correct terms, always ordered differently to avoid bias and collect honest and relevant information. The accuracy of the terms on the spectrum of politically correct terms was measured against the Publication manual of the American Psychological Association (7th ed.), aided by Disability Language Style Guide by the National Center on Disability and Journalism and Merriam-Webster Dictionary. This part allows us to examine how people prefer expressing themselves in a PC English language environment.

The development of the survey questionnaire and the initial idea for such a survey was a case study from Thailand, where Phumsiri and Tangkiengsirisin (2018) analyzed the use of English with political correctness. Based on this case study, our survey adapted some questions to better align with the present research objectives. The questions were modified to acknowledge the contributions of the previous study, and the present study's questionnaire (see Appendix) expanded the existing knowledge in the field while constructing the survey to meet the specific needs of our research. Finally, reliability and validity tests were performed before the questionnaire was delivered to the respondents.

Finally, in the Results section, questions from the questionnaire regarding the use of politically correct English language (see Appendix) will be abbreviated to LC1-LC20 (*meaning: Language choice question 1, Language choice question 2, etc. – Language Choice question 20*) for a more representative and clearer results presentation.

3.4. Data collection and analysis

The questionnaire was distributed online and intended to gather data on the usage of the politically correct English language among professors of international high schools and universities and international university students. Regarding the methods of participants' selection,

the decision to include students and professors from international educational institutions was made deliberately to enhance the study's findings by including participants from international educational institutions, as they are included in English as a Medium of Instruction (EMI) programs, which testifies to their familiarity with the usage of the English language (either politically correct or not). Educators in international high schools and universities were selected based on their role in promoting and modeling the politically correct English language within international educational environments to obtain better insights since the study aimed to determine the differences in participants' usage of the politically correct English language. Students of international universities were similarly selected based on their engagement in academic and social settings, providing real-world perspectives on how the politically correct English language is used. It was purposefully decided to include educators and students to capture a holistic view of the political English language in Bosnia and Herzegovina's educational settings and provide a more reliable answer to the research question.

The online survey was distributed to students' representatives via institutional e-mails and to international university and high school professors in the same manner or via institutional community groups. Participants were provided with a detailed explanation of the study objectives. They were aware that taking part in the survey is entirely optional, which gives them the freedom to withdraw from the study at any time. Additionally, they were informed about the approximate duration they would need to complete the survey. In order to ensure privacy, every response was anonymized, and any identifying information was kept private. Participants were not compensated for their participation.

The Statistical Package for Social Sciences (SPSS, v. 25) was used to analyze the data collected, precisely the Independent Samples T-test for male and female participants' differences regarding their language use of politically correct English language across all categories and group descriptive tables including mean scores and standard deviation for both gender categories across all twenty questions. The following chapter will present the table showing group descriptives regarding male and female actual use of the PC English language.

Results

Regarding the presentation of the results, it is essential to note that the participants were offered three choices, ranked from 1 to 3 (with one being the most politically correct and three being the least). As pointed out previously, more and less politically correct terms were included, always ordered randomly to lead participants to provide unbiased answers. The overall descriptive analysis of male and female respondents' input regarding politically correct English language terminology showed a greater preference for politically correct English language usage among women. As shown in Table 3, the mean score of female overall answers was $M=1.80$ and male respondents' $M=2.00$; it can be concluded that female respondents tend to use more politically correct terminology than males.

Table 2:
Statistical Analysis of overall Mean values of respondents' PC English language use

Participants	Questions	Mean
Male	LC1 - LC20	$M=2.00$
Female	LC1 - LC20	$M=1.80$

Furthermore, the statistical analysis showed that twelve out of twenty questions showed statistical significant differences between male and female participants' answers (see Table 3):

Table 3:
Independent sample T-test regarding the statistically significant difference in male and female actual use of PC English language

Variable	Levene's Test for Equality of Variances		Independent Samples Test		
	F	Sig.	t	df	Sig. (2-tailed)
LC1	2.768	.098	-2.227	148	.027
LC2	7.047	.009	4.140	127.868	.000
LC3	9.377	.003	-4.413	91.792	.000
LC4	10.374	.002	-2.374	89.132	.020
LC5	17.046	.000	1.598	86.674	.114
LC6	0.096	.758	-1.340	148	.182
LC7	11.026	.001	-0.979	135.971	.330
LC8	4.016	.047	0.782	148	.436
LC9	5.419	.021	-3.820	100.196	.000
LC10	12.158	.001	-3.750	118.948	.000
LC11	46.900	.000	-4.510	131.294	.000

LC12	15.933	.000	-1.751	92.042	.083
LC13	10.326	.002	-3.057	127.925	.003
LC14	0.486	.487	-2.400	148	.018
LC15	8.004	.005	-0.606	120.875	.546
LC16	8.702	.004	3.227	123.963	.002
LC17	0.496	.482	0.521	148	.603
LC18	10.961	.001	-4.482	119.890	.000
LC19	8.554	.004	-0.198	129.309	.843
LC20	9.390	.003	-2.402	127.660	.018

As seen in Table above, Levene's test showed significant differences ($p<0.05$) for questions LC2, LC3, LC4, LC5, LC7, LC9, LC10, LC11, LC12, LC13, LC15, LC16, LC18, LC19, and LC20. In terms of the examined categories, the differences were shown as presented below:

- Disability-related: LC1, LC2, LC3, LC4
- Gender-related: LC9, LC10, LC11
- Work-related: LC13, LC14
- Race-related: LC16
- Socioeconomic status: LC18, LC20

In the following section, group descriptives will be presented for males and females across all the twelve aforementioned questions related to language choice in politically correct English that showed statistical significance in the difference between both genders. Examining the descriptive statistics for both genders provides more insights into potential differences in politically correct English language usage.

Regarding questions from the gender-related politically correct English language, the difference between male and female participants was found to be present in gender-specific terms such as LC9: female participants showed a strong preference for the most politically correct term "flight attendant," with a mean score of $M=1.52$, whereas male participants were more likely to use outdated, gender-specific terms, such as a steward(ess) or an air-host(ess), as reflected in their higher mean score of $M=2.13$. (see Table 4). Another question regarding gender-neutral terms, LC10, showed that female respondents were more inclined to use the term "stay-at-home-parent/spouse" ($M=2.01$) compared to male respondents who preferred less politically correct terms like "housewife" ($M=2.59$). The last question from the gender-related category

related to gender-neutral pronouns – LC11 showed that females demonstrated more openness to using gender-neutral pronouns such as “they” (M=1.90) in contrast to males who preferred gender-specific pronouns (M=2.57).

Table 4:

Group descriptives regarding students’ and educators’ actual use of PC English language

	Gender	N	Mean	Std. Deviation
LC1	Female	96	1.66	.993
	Male	54	2.06	1.156
LC2	Female	96	2.01	.900
	Male	54	1.44	.744
LC3	Female	96	1.29	.664
	Male	54	1.87	.825
LC4	Female	96	1.50	.768
	Male	54	1.87	.991
LC9	Female	96	1.52	.870
	Male	54	2.13	.972
LC10	Female	96	2.01	.968
	Male	54	2.59	.880
LC11	Female	96	1.91	.996
	Male	54	2.57	.792
LC13	Female	96	1.51	.696
	Male	54	1.83	.575
LC14	Female	96	1.65	.665
	Male	54	1.93	.723
LC16	Female	96	1.61	.745
	Male	54	1.24	.642
LC18	Female	96	1.83	.959
	Male	54	2.52	.863
LC20	Female	96	2.42	.735
	Male	54	2.69	.609

Furthermore, as displayed in Table 4, the first four questions from the questionnaire from disability-related questions (see Appendix) showed statistically significant differences between males and females. LC1, regarding wheelchair users, showed that females showed a higher sensitivity to person-first language, preferring the term “a wheelchair user” (M=1.65) over males who opted more for terms such as “confined to a wheelchair” or “a victim of disability” (M=2.05).

Secondly, related to deaf terminology in LC2, males were more likely to use the term “deaf” (M=1.44), while females preferred “hard of hearing” (M=2.01). Additionally, LC3 about disability terminology indicates that females favored the term “a person with a disability” (M=1.29), while males leaned towards less preferred terms like “handicapped” (M=1.87). Finally, in LC4, females preferred the term “a person with an intellectual disability” (M=1.50) over males who were more prone to use terms such as “intellectually disabled person” (M=1.87).

Additionally, the work-category questions also showed the females’ preferences for politically correct language. LC13, including vocabulary concerning sanitation workers, female respondents showed a preference for the term “sanitation worker” (M=1.51) over males (M=1.83) who use terms such as a “garbage man” more frequently than women. Moreover, LC14, including cleaner terminology, also showed that females preferred the term “cleaner” (M=1.64) compared to males who were more likely to use terms like “cleaning lady” or “maid” (M=1.92).

Moreover, in race category questions, LC16 showed that males preferred the term “black person” (M=1.21), while females had a mean score of M=1.61, indicating a variance in terminology preference. Together with the race-related questions, the socioeconomic status category showed the difference between males and females in two questions, LC18 and LC20.

LC18 regarding income terminology showed that female respondents showed a preference for the term “lower income” (M=1.83), whereas males leaned towards terms like “impoverished” or “poor” (M=2.51). Finally, LC20 concerning terminology about immigration, females preferred a more politically correct term “undocumented immigrant” (M=2.41), contrary to males who were more likely to use the term “illegal immigrants” (M=2.68).

In summary, the results indicate that female participants showed a clear preference for politically correct English language in comparison to males, with significant differences observed across categories such as gender, disability, work, race, and socioeconomic status. These results provide a foundation for the following section, where they will be discussed in terms of the previous research and the set hypothesis.

Discussion

Concerning the analysis of the results, it is essential to mention that our hypothesis has been partially confirmed, meaning that there is a statistically significant difference between males and females in Bosnia and Herzegovina's educational settings when it comes to the actual usage of the majority of politically correct terminology while communicating in English. Based on the results provided, it can be concluded that females are the ones who are more likely to use politically correct language when communicating in English, thus confirming a significant pool of previous research in the field in other countries and languages (e.g. Crowford & English, 1984; Rubin & Greene, 1991; Stout & Dasgupta, 2011; Swim et al., 2004;).

The findings are significant considering the country's unique cultural and historical context, where traditional gender roles have shaped societal expectations for a long time. Throughout history, women in Bosnia and Herzegovina were often confined to domestic roles, with limited opportunities to be involved in professional or public life. Furthermore, these roles did not require using inclusive or politically correct language. However, the present trend among women to accept politically correct language reflects their collective efforts and the need to challenge these traditional limitations tied to women.

The results imply that females might be more sensitive to gender-neutral language in domestic roles and more prone to using gender-neutral and inclusive language in professional settings. The results also indicate that women are more comfortable and familiar with using language that shows respect for non-binary identities and have a greater preference for this terminology. All of this highlights that women lean towards a more inclusive environment and language towards minorities. Women also showed a great understanding of a person-first language, which suggests that they adhere to the standards and guidelines in communication as proposed by APA in the context of intellectual disabilities, race, and socioeconomic status, thus suggesting that their stances overall are aligned with PC language advocates (e.g., Cameron, 1995; Fairclough, 2003; Maass et al., 2013; Wood, 2011).

However, both male and female participants showed that they use more politically correct

terminology when using vocabulary concerning people from the Deaf community, which showed their familiarity with the community's preferences since both choices they selected, deaf and hard of hearing, are considered politically correct in different contexts. On the other hand, an exception where males use a more politically correct term, which is race, where men were the ones who expressed the higher understanding in the usage of politically correct terminology, might suggest that males are the ones who are more familiar with specific inclusive terms depending on the context. Thus, overall, it seems that the male examined population is either unfamiliar with the lexical nuances between the use of different synonyms or, as previous research suggests, it may stem from differing views on the necessity and impact of such practices.

Regarding the presented significant differences in the usage of politically correct language when communicating in English between males and females in Bosnia and Herzegovina, it is suggested that females are generally more open to inclusive terminology. This phenomenon can be due to various factors, including the country's cultural norms, socialization, a more nuanced understanding of English language vocabulary, exposure to education on the researched topic, and professional environments. Women may have been engaged in education programs about politically correct language, which shows a higher level of awareness of it. They might be further exposed to more gender-sensitive discussions, debates, and educational settings that emphasize inclusive language, which had a huge impact on the fact that they are the ones who show a greater tendency to use politically correct terminology when communicating in English. Women in Bosnia and Herzegovina also might be conditioned to use more socially and culturally respectful language, confirming some previous claims (e.g., Lakoff, 1975). Adding to this, the reason behind the females' higher level of usage of politically correct terminology when communicating in English might be attributed to the fact that some social norms in Bosnia and Herzegovina additionally encourage women to be more empathetic and to use more considerate language to show the care of others' feelings. Adding to that, they might have more personal or professional experiences that would make them the ones who are more sensitive to the usage of politically correct language. For example, women might face gender-based discrimination more than men, making them understand and

show more understanding of the impact of language on social inclusion and respect among people. As the survey took place in educational settings, the results might also be attributed to the fact that education is a more female-dominated field, as well as healthcare. Therefore, it might stress the importance of inclusive language more than in male-dominated fields.

The results might be interpreted in a way that it can be said that the society in Bosnia and Herzegovina is gender stereotypical to some extent. As stated, gender stereotypes thus not only capture how men and women are expected to behave but also communicate how it is believed that they should behave (Prentice & Carranza, 2002.) A notable observation from the questionnaire is that male respondents frequently use terms such as “cleaning lady” instead of the gender-neutral terms “sanitation worker” and “housewife” over “stay-at-home/spouse.” These particular choices indicate male’s adherence to the aforementioned traditional, more gender-specific terms among men. The reason behind this might be a slower change in male-dominant social spheres or even a lack of exposure to education on this topic to promote a more inclusive language. However, female participants showed a preference for gender-neutral terms, like “sanitation worker” and “stay-at-home parent/spouse,” suggesting that they show an effort to use language that respects the dignity of an individual and avoids the usage of outdated stereotypes, which are more favorable towards men.

Furthermore, Bosnia and Herzegovina have unique traditions and cultures that might have a great influence on the results. Traditional gender roles and cultural norms might dictate that women are obliged to be more empathetic and to use more considerate language in their communication styles. Throughout history, women have normally been held back in society as a less capable ‘group,’ which might be the reason why they are from a young age socialized to be more respectful and aware of others’ feelings and needs, which further leads to a greater emphasis on using language that is more respectful, inclusive and non-offensive.

Conclusion

In conclusion, the findings reveal that both groups, females and males, have a solid level of usage of politically correct English language terminology in general, with female participants

expressing more preference for its usage. This can further be reflected in an important cultural shift to more recent pro-politically correctness values that promote inclusivity and respect for everyone.

This shift is of great significance, given the historical background of Bosnia and Herzegovina, with conventional gender roles deep-rooted for a long period. The implications behind the findings are that although politically correct language is becoming more widely recognized, accepted, and used by people, there is still area for improvement for the politically correct language to be fully incorporated and a part of the local way of life and the educational system. Educators, however, showed that they are dedicated to fostering more inclusive workplaces, but they are also the ones who need to adapt their materials and methods to conform to the more politically acceptable norms.

As expected, women are at the forefront of this change, being the main actors of it since they are using language as a tool to promote equality and to challenge traditional stereotypes that have been present for a longer period of time. Understanding these dynamics further offers valuable insights into the societal changes going on in Bosnia and Herzegovina at present. The significant differences between males and females in their use of politically correct language underscore the need for targeted educational initiatives to promote inclusive language use. These findings show the importance of continuing to invest great efforts to raise awareness and understanding of politically correct terminology, making sure that both males and females are equally capable of contributing to creating respectful and inclusive communication environments. Cultural and societal norms, as the results suggest, still play an important role in shaping the way people use language, and in creating a more inclusive society, it is of high importance to address these norms. At the same time, it is crucial to underscore that the unconditional acceptance of all language promoted as politically correct, as well as its rejection, are the two extreme poles that disregard nuanced contexts of different terms and different settings. Thus, the educational initiatives, as well as people’s implementation of the language style guidelines, should be a result of informed decisions built upon the pillars of critical thinking, comprehensive scientific research, context, empathy, common sense, and scientific facts. This virtually means that, as with most things in life, the politically correct language should not be guided by an all-or-nothing approach, with unconditional

acceptance or rejection of all of it; rather, a more scalable solution, a nuanced choice, and context-bound decision should be at the forefront of the process.

In order to build on these findings, future research might consider a longitudinal study that would examine the way the usage of politically correct language evolved among different demographic groups in Bosnia and Herzegovina. Additionally, one more direction could be to investigate the influence of different kinds of media and social networks on adopting politically correct terminology. Comparative studies might also provide deeper insights into the sociolinguistic factors that influence the way politically correct language is adopted globally. Finally, a qualitative study might shed more light on the reasons behind the linguistic choices among the participants.

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Appendix

Survey

Welcome to our survey on the use of politically correct (PC) English language in Bosnia and Herzegovina's educational settings. This survey aims to explore whether there are differences between genders in the actual use of politically correct English language in educational settings. We thrive to gather information from students and educators about their actual use of politically English language in our diverse educational environments.

What is a Politically Correct Language?

Politically Correct Language refers to a way of communicating that aims to avoid offending or marginalizing specific groups of people (e.g., based on sex, race, religion, appearance, disabilities, etc.). It emphasizes sensitivity, inclusivity, and respectful expression, and it has both proponents and critics globally.

Your Participation Matters

Your participation in this survey is valuable. It will help us better understand the role of politically correct English in our educational environments. Your responses will remain anonymous and confidential.

Thank you for taking the time to participate in this important survey.

Demographic Information:

Age: _____

Gender:

- Male
- Female
- Prefer not to say

What is your current status?

- Student
- Professor/teacher/educator

Completed educational degree:

- High school
- Bachelor's degree
- Master's degree
- Doctoral Degree
- Other (please specify): _____

How would you rate your English Language skills?

- Poor – Your English skills are very limited, with minimal understanding and ability to communicate.
- Fair – Your English skills are basic; you can understand and communicate simple ideas but struggle with more complex language.
- Good – Your English skills are competent for everyday use and most professional contexts, though you may occasionally face difficulties with complex structures or expressions.
- Very Good – Your English skills are strong; you can understand and communicate effectively in almost all situations, with only occasional errors or misunderstandings.

- Excellent – Your English skills are exceptional; you have a mastery of the language, including nuanced understanding and the ability to communicate complex and detailed information flawlessly.

Language Choice in PC Context:

In this part of the questionnaire, you will be presented with a series of terms related to different contexts. For each set of terms, please select the one that you most frequently use in the specified context.

1. Which term do you most frequently use? **LC1**

- confined to a wheelchair.
- a wheelchair user
- victim of disability
- your version: _____

2. Which term do you most frequently use? **LC2**

- deaf
- hard of hearing
- hearing-impaired
- your version: _____

3. Which term do you most frequently use? **LC3**

- invalid
- handicapped
- a person with a disability
- your version: _____

4. Which term do you most frequently use? **LC4**

- a person with an intellectual disability
- mentally retarded
- intellectually disabled
- your version: _____

5. Which term do you most frequently use? **LC5**

- a person who stutters
- a person with a speech impediment
- a person who cannot talk right
- your version: _____

6. Which term do you most frequently use? **LC6**

- postman
- mailman
- mail carrier
- your version: _____

7. Which term do you most frequently use? **LC7**

- Businessman
- Businessperson
- Businesswoman
- your version: _____

8. When referring to a mixed group, you say... **LC8**

- Guys
- Folks
- Ladies and gentlemen
- Your version: _____

9. Which term do you most frequently use? **LC9**

- air host(ess)
- flight attendant
- steward/stewardess
- your version: _____

10. Which term do you most frequently use? **LC10**

- housewife
- home-maker

- stay-at-home parent/spouse
- your version: _____

11. John identifies as a non-binary person. You say: **LC11**

- John said he would bring his phone.
- John said they would bring their phone.
- John said zie would bring zer phone.
- your version: _____

12. Which term do you most frequently use? **LC12**

- senior
- old man/old woman
- older person
- your version: _____

13. Which term do you most frequently use? **LC13**

- garbage man
- trash man
- sanitation worker
- your version: _____

14. Which term do you most frequently use? **LC14**

- cleaning lady
- maid
- cleaner
- your version: _____

15. Which term do you most frequently use? **LC15**

- low-skilled worker
- entry-level worker
- unqualified worker
- your version: _____

16. Which term do you most frequently use? **LC16**

- black person
- colored person
- negro person
- your version: _____

17. Which term do you most frequently use? **LC17**

- Oriental people
- Asian people
- Exotic people
- your version: _____

18. Which term do you most frequently use? **LC18**

- poor
- impoverished
- lower-income
- your version: _____

19. Which term do you most frequently use? **LC19**

- Third-World countries
- Underdeveloped countries
- Developing countries
- your version _____

20. Which term do you most frequently use? **LC20**

- illegal immigrant
- undocumented immigrant
- a person without a legal status
- your version _____

Do you wish to add anything else about your views regarding the usage of the politically correct English language?

REVIEW PAPER

DEFAMATION LAW AND MEDIA: CHALLENGES OF THE DIGITAL AGE

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ABSTRACT

The fast-paced evolution of digital media and the internet has fundamentally changed how information is gathered and disseminated. This fact poses challenges to the legal aspect of understanding and recognizing defamation in the digital media age leaning on the normative and ethical theoretical approach it has in society. This paper examines the interplay between the legal concept of defamation and digital media, striving to understand the complexities that the development of digital media platforms introduced. The pervasive nature of online communication amplifies the potential reputational harm. Such a situation needs an evolving legal framework capable of balancing the protection of individuals' reputations and the principles of free speech. Therefore, this work examines difficulties in applying existing legal standards to a new digital environment including the issues of identification and liability of online publishers, as well as cross-border defamation cases and their jurisdictional problems. Through a comprehensive analysis of recent legal and academic writing, this paper evaluates the effectiveness of current defamation law. Hence, it examines the role of internet intermediaries and issues of their liability, emphasizing the need for clarity in legal responsibility, and adjusting to the new realities of the current media space. So, this paper seeks to contribute to developing a more robust and nuanced legal framework that can effectively address the complexities of defamation in the age of digital media. Ultimately, it calls for international collaboration and cooperation in developing innovative strategies to navigate the landscape of digital communication while maintaining fundamental rights and freedoms.

Keywords: Defamation, Defamation law, Digital media, Normative theory model, Ethical theory, Social responsibility

The authors declare a conflict of interest due to a kinship relationship; Abdurrahman Zukić is the son of Melisa Zukić.

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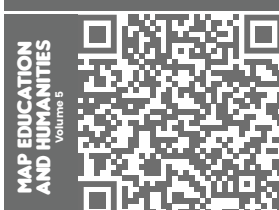
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Introduction

In the digital age with the rapid evolution of media platforms, there is an evident transformation of processes in which information is created, shared, and consumed. This transformation presents new challenges for legal frameworks that protect individuals' reputations. A particular interest to this paper is defamation law. Traditionally, defamation law has aimed to balance safeguarding freedom of expression and protecting individuals from false and damaging statements. However, the possibility for instantaneous and global information dissemination that digital media provides complicates the mentioned balance. Unlike traditional media, which operates under strict editorial standards and legal oversight, digital media allows virtually anyone to publish content without prior restraint, leading to a proliferation of unverified and potentially harmful information. The internet's decentralized and borderless nature has raised complex legal questions about jurisdiction, accountability, and the application of defamation laws across different platforms and countries. Social media platforms like Facebook, X (formerly known as Twitter), and YouTube have become central to public discourse, enabling unprecedented levels of participation and interaction. While these platforms have democratized information dissemination, they have also become breeding grounds for misinformation and defamation, challenging existing legal frameworks as Gillespie (2018) and Suzor (2019) notice.

This paper explores the ever-evolving relationship between defamation law and media in the digital age, leaning on the works of lawyers and media professionals such as Bailey and Steeves (2017), Crook (2010), Dreibelbis (2021), Eltis, (2018), Kenyon (2018), Krotoszynski (2005) and many others that created the foundation for us to focus more on civil cases rather than criminal jurisdiction, which while prevalent in many states, is not the norm in most Western democracies. This paper also primarily examines the common law tradition, taking as examples U.S. law, while offering occasional comparative insights into other important legal jurisdictions. The unique challenges posed by digital media, such as the speed and reach of information dissemination, the permanence and archival nature of online content,

and the important role of online intermediaries in content moderation, are thoroughly analyzed. This paper also looks into how traditional media have reacted to the challenges in complex editorial processes to ensure accuracy and avoid potential litigation while leaning on a theoretical approach to media and communication based on normative and ethical theory as presented by McQuel (1987), Baran and Denis (2012) and Banjo and Dokunmu (2023). This work attempts to take a current legal literature review and note the changes that may bring more clarity concerning the future path of defamation law in cyberspace. We trust that this analysis furthers the debate on balancing reputation protection, the principles of free speech, and innovation in the digital era.

Understanding Defamation as a Legal Concept

The definition of defamation naturally varies, but it is a concept that is broadly understood. It refers to a false statement, written or uttered by one party, which can cause reputational harm to another. Historically, it has been designed to protect "reputation", but it has also applied to other similar concepts such as "honor" or "good standing", many of which are still used today.¹ As Crook (2010) notes, reputation was indeed recognized as an immortal part of oneself, a sentiment echoed in Shakespearean literature, citing the words of Cassio in *Othello*. Defamation and its subcategories of libel and slander, are often defined as the written and spoken forms of defamation but have still developed in very particular circumstances (Encyclopedia Britannica, 2024). Thus, Crook (2010) points out that most cases that shaped our understanding of defamation law, particularly libel law, arose from political or social controversy. Regarding the context of English law, Keeton and Prosser (1984) explain that defamation has developed throughout history without a particular aim or direction. With common law courts taking no jurisdiction, defamation was left to the local courts, and later ecclesiastical courts which regarded it as a sin. Therefore, due to this haphazard and directionless development, the understanding of defamation law has shifted throughout the years. It was not of any help that in its later development in the US courts, it has been consistently limited, and thus new and more limiting definitions arose. Shifting to what Keeton

1 "The term "defamation" means any action or other proceeding for defamation, libel, slander, or similar claim alleging that forms of speech are false, have caused damage to reputation or emotional distress, have presented any person in a false light, or have resulted in criticism, dishonor, or condemnation of any person." (Office of the Law Revision Counsel, UNITED STATES CODE, 2024)

and Prosser (1984) have described as anything that tends to injure reputation, and diminish the esteem or confidence in which a person is held. The evolution of defamation law under these common law principles heavily influenced the modern legal framework, which is still undergoing development.

Defamation law can be divided into two categories: libel, which relates to a written declaration, and slander, which refers to a verbal or spoken remark. Cyber-libel is a phrase that refers to someone on the internet who makes an incorrect and detrimental comment about others on social media, blogs, chat rooms, individual websites, social networking sites, or other already released materials as Banjo and Dokunmu (2023) note. Content that disparages a person or business and is uploaded on a social media platform is referred to as: “social media defamation.” This type of defamation is referred to as libel, internet defamation, disparagement, character assassination, cyberbullying, and other types of cyber harassment as Banjo and Dokunmu (2023) refer to (Duncan & Neil, 2009). It is enough to say that online defamation is different because of its participatory character, and its complete and immediate global ubiquity and accessibility that create the potential to damage people’s and businesses’ reputations. As a result, in Internet defamation cases, the form and extent of dissemination become important factors to examine. Frosio (2017) adds that modern legal systems continually grapple with intermediary responsibilities, which we will tackle in subsequent chapters. Therefore, Eltis (2018) highlighted the importance of restoring context in online defamation analysis, emphasizing that “truthtelling” without context can be misleading and damaging in the digital age. Out of these fundamentals of development, several key elements of defamation law are consistently recognized.

- First, a false statement is defamatory in situations when it is purported to be a fact. Consequently, an opinion does not fall under this definition.
- Second, defamation cannot be a communication between the first and the second party. A defamatory statement must be conveyed to a third party.

- The third element is the level of fault. A person who makes the statement does it out of negligence or malice. In cases involving public figures, the US Supreme Court has raised the standard even higher, requiring it to be proved that the statement was made out of “actual malice” or reckless disregard for the truthfulness. Through the *New York Times Co. v. Sullivan* case, the US Supreme Court established the “actual malice” rule, effectively broadening the scope of the First Amendment², at least when it comes to public figures. Crook (2010) noted that this created a bifurcation between cases involving a public figure and a private individual. Therefore, Crook (2010) explains that for a private individual, the legal standard was lower, requiring only the proof of negligence of the person making the statement.
- Finally, it is required to prove that the false statement has caused reputational harm, as Keeton (1984) and Kenyon (2018) present in their works. This reputational harm can include social ostracization, where the individual becomes shunned by their community or has profound professional consequences, such as loss of employment or business opportunities. In the digital age, as Bailey and Steeves (2017) notice, the impact on young people is particularly significant, because of the quantity of their online social connections, highlighting the need for updated legal frameworks to address new challenges in reputation management online.

Previously mentioned requirements for Banjo and Dokunmu, (2023) in defamation cases may be difficult to prove. Their statement is based on:

- Truth or justification; where the writer/speaker who said a defamatory statement claims to be true and can back up the statement with facts.
- Absolute privilege; in situations where people’s rights are protected and they are free to speak ‘unedited’, as in speeches in

2 The First Amendment of the United States Constitution: *Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances.* (The Constitution of the United States of America: Analysis and Interpretation, 2024).

parliaments or courts, as evidence during a trial, an investigation, et. c.

- Other justifications are fair commenting and responsible communication on matters of public interest. Another example is when statements are not made maliciously but based on verifiable facts. When we highlight that online communication is impersonal and anonymous, but also fast, interactive, borderless, and far-reaching, we can expect a high possibility that the defamatory words will be accepted and believed. However, the most defamatory postings on Facebook, for example, are untrue and unjustifiable about individuals. Deletion of such posts did not affect copies that had been copied before the deletion. Individuals who shared the posts still have them because the originator's removal does not affect their posts. Another factor is the number of people who have seen the messages or posts on social media that could instantly reach numerous people, and cause serious and harmful consequences for individuals, businesses, personal well-being, financial capabilities, etc. Therefore, to avoid this situation, it is needed to impose harsh penalties on the offender(s) in cases when it is clear that defamatory words have been made.

While these elements are broadly recognized, their specific legal standards and interpretations can vary depending on the jurisdiction. For instance, Citron and Franks (2020) discuss the complexities introduced by Section 230 of the Communications Decency Act. Section 230 limits platform liability for online publishers and further complicates defamation law in a digital context, suggesting that reform is necessary. In the same direction, Mann and Belzley (2005) explore the evolving role of internet intermediaries in defamation cases, emphasizing their potential liability and the importance of clear legal standards.

Theoretical Approach and Ethical Norming Media

As a preliminary orientation to the topic McQuel (1987) explains that, it is helpful to look at the relationship between personal media and mass media. The distinction between mass and personal communication is not clear anymore because the same technologies are used for both purposes. The

differences can only be understood by introducing a social dimension, relating to the type of activity and social relations. Instead of the term 'medium', Luders according to McQuel (1987) prefers the term 'media forms', which refers to a specific way to use the Internet. These media forms create freedom for every individual to express their opinion, whether benevolent or malicious. Such a public sphere requires that society protect its values and norms. At this point, not just media professionals but also personal users are required to be aware of legal consequences if their speech or posts are causing harm to others. Therefore, we can find theoretical explanations in normative and ethical approaches to this topic, following the pace of medium development and media forms.

While chronologically reviewing social and cultural history, freedom of speech stands out as an important concept for creating an atmosphere of social progress as we observe in the works of McHangama (2022) and Perry (1993). Nevertheless, it was always in some way limited by different norms, laws, various forms of censorship, or religious institutions to protect the honor of important individuals (such as royalty), institutions, morals, or religious teachings. Therefore, we can notice defamation laws as a continuously present social form of legal limitation of free speech which can be recognized and explained in different models of normative theory, but also as an ethical concept explained with ethical theories. Besides the previously mentioned theories, information manipulation theory offers a different approach to understanding deceptive messaging, and how sensitive information is managed and controlled.

Normative media theory explains the social contexts (libertarian vs. authoritarian) in which media is regulated while creating four models of different normative theories. They inevitably overlap, but they each have their internal logic. In such an approach, McQuel (1987), as well as, Baran and Davis (2012), states they can be summarized as:

- A liberal pluralist or market model based on the original free press (libertarian) theory, which identifies press freedom with the freedom to own and operate the means of publication without permission or interference from the state. It emphasizes individual needs and defines the public interest as what interests the public. The public sphere will be served as a 'free

marketplace of ideas'. Accountability towards society and other individuals is also achieved by the media market and some forms of minimal self-regulation, with a minimal role for the state.

- A social responsibility or public interest model, where the right to freedom of publication is accompanied by obligations to the wider society that go beyond self-interest. A 'positive' notion of freedom, involving some social purpose, is envisaged. Responsible media will maintain high standards by self-regulation but government intervention is not excluded. One of the ways the government intervenes is by defamation law.
- A professional model is based on the expectation that the guardianship of standards belongs to the model of the 'press' and the journalistic profession. Journalists are the inheritors of the fruits of struggles for freedom and democracy in past times and are still the best guarantors of the public interests. Therefore, their primary concern is serving the public's need for information and comment and providing platforms for expressing diverse views. In that case, the best guarantee of an adequate watch being kept on those in power is the institutional and professional autonomy of journalists.
- An alternative media model represents a range of non-mainstream media, with different aims and origins. Nevertheless, there are some shared values. The model rejects universal rationality and ideals of bureaucratic-professional competence and efficiency. It emphasizes the rights and values of subcultures and promotes understanding and a sense of community.

Besides Normative theory models it is important to refer to the information manipulation theory that according to Banjo and Dokunmu (2023) contends that deceptive messages function by discreetly flouting the rules that govern interpersonal interactions. Speakers can exploit assumptions that appear in conversation. Thus, elements like quantity, quality, technique, and relevance of information could trick listeners. Information Manipulation Theory helps to resolve earlier differences in the characteristics of deceptive messages and also creates an approach for understanding how much sensitive information is managed and controlled.

Ethics theories represented in Banjo and Dokunmu's (2023) work are also connected with argumentation about the justification of limitations of free speech and sensitivity to the need to protect the honor and the public sphere from defamation. Ethics is always questioning morality by the way good and evil are understood. These terms overlap in Latin translations of the Greek word *ethics*, referring to moral character or tradition. Every culture over time developed its way of understanding ethics but today traditional ethics is questioned by postmodern ethics. So, truth, deception, misrepresentation, propaganda, hate speech, harassment, freedom of speech, justice, slenderness, and many others are reevaluated. Banjo and Dokunmu (2023) note that Aristotle as a scholar is associated with virtue and ethics considering that people should behave with moderation, honesty, and justice in their personal and public lives. Therefore, ethics is a human activity. Later, Roman Christianity, derived from Plato and Aristotle's earlier Greek philosophies of virtues such as courage, prudence, temperance, justice, etc. That shifted with Immanuel Kant, who set a system of moral reasoning based on duties and obligations rather than qualities, results, or feelings in the 18th century. Kant asserts that the categorical imperative is a general rule that underpins all ethics and states that one should always act according to the values that they would like everyone else to act by. Therefore, Perry (1993) explains that Kant's universal law is categorical because it has no exceptions under any circumstances, and it is imperative because it is the same for everybody. For instance, Kant contends that lying is morally unacceptable regardless of whether doing so would appear to advance a greater good, such as saving a life. Teleological ethics focuses moral judgments on the results of actions rather than on norms, duties, or virtues. Hence, Banjo and Dokunmu (2023) highlight in their work that people have an ethical duty to act in the interests of the largest number of people. Ethics theories argue about ethical egoism from an evolutionary perspective, emphasizing the genetic and biological benefits for the person, and also from a psychological perspective, emphasizing the emotional and social rewards of ethical activities to oneself. On the other hand, opponents defend ethical egoism in a direction in which personal benefit means benefit for society. Dialogic ethics puts ethics in the domain of interpersonal communication in a way Banjo and Dokunmu (2023) notice, that human experience is founded on the ethical relationship with the other. Therefore, Banjo and Dokunmu (2023) rely on the explanation that the most difficult issues in communication

ethics are not related to the words but rather the ethical context in which communication shapes people, societies, the public, and relationships.

Defamation Law and Digital Media

The transformation of digital media ensures easier and more information dissemination. So, research in the United States population, shows that the majority get their news from digital devices, including 86% of adults in 2023. About half of US adults say they get their news directly from social media. This development should not be surprising to anyone, given that 83% of US adults reported using any type of social media, while the number globally is around 62% (Pew Research Center, 2023). The instantaneous nature of information sharing by billions of users worldwide makes it almost inevitable that users will start using these sites to get news. Social media platforms make it possible to instantly publish and share content, changing the nature of public discourse, especially as Suzor (2019) points out, platforms like Facebook, Twitter (now known as X), Instagram, and YouTube. They independently make decisions that influence the way these sites operate. Traditional media sources have strict and extensive editorial standards and processes so, it is not a surprise that their publication process is slower. These standards and processes are in place for good reason, to allow for fact-checking, verifying information, and legal vetting. A strict editorial regime has developed over time, first as a self-regulatory process and was later ratified into law. In such media context, Crook (2010) explains, there is a distinction between primary media law and secondary media law, the former relating to statutes and directives and the latter emanating from governmental oversight bodies, such as the Federal Communications Commission (FCC) in the United States. On the other hand, with the rapid development of the internet and digital technology, priority was placed on instant access to information and the development of new technologies. Gatekeeping roles of the publishers and broadcasters were significantly weakened as Gillespie (2018) explains, since anyone and everyone could publish and disseminate information instantly, and that it could be received instantly. Such complexities of handling defamation on social media explore Dreibelbis (2021), describing them as the “new legal frontier” in an increasingly chaotic digital environment. The reality of rapid information sharing and lack of editorial oversight characteristic of social media amplify the risk of defamatory statements being made and

circulated. So, it is needed to start the discussion that Dreibelbis (2021) begins, about recent case law and legal reforms aimed at addressing these challenges emphasizing the need for laws that reflect the new realities of mass social media. A clear suggestion, from these discussions, is that legal systems ought to consider the development of specialized defamation laws intended only for social media, with a higher degree of focus on the speed and reach of digital communications. Dreibelbis (2021), also advocates for greater accountability for social media platforms, urging them to implement effective content moderation policies and collaborate with legal authorities to prevent and address defamatory content more quickly and effectively. Therefore, legal frameworks designed for traditional media as Schellekens (2006) and Cate (1996) notice, are often ill-suited and outdated for the digital landscape, where the boundaries between publisher, broadcaster, and individual user blur. While in traditional media editors and legal teams typically review content before publication comprehensively to mitigate the risk of a defamation lawsuit. On platforms like X or Facebook, users can post potentially defamatory content instantly without any review, making it challenging to hold these individuals accountable under existing defamation laws. In addition to that, the sheer volume of content generated on digital platforms would further complicate the enforcement of any defamation law. This leads us to Gillespie’s (2018) statement that the role of digital platforms as intermediaries in moderating content is both crucial and highly contentious. These platforms employ certain content moderation systems that are supposed to remove harmful or defamatory material. Yet, as it is notable, the scale of user-generated content means that such systems are often reactive rather than preventative and that a lot of such content does slip out. Dreibelbis (2021) and Banjo and Dokunmu (2023) further emphasize that the digital age has amplified the reach and impact of defamatory statements because many individuals speak their opinions and submit comments on media platforms, but it is as if they were publishing them on the front page of a widely circulated newspaper or broadcasting it on the news. Although some websites and social media platforms screen comments for offensive or illegal content, screening algorithms are not made to examine every comment for defamatory material, so many defamatory statements end up online. The vast and global nature of digital media adds another layer of complexity to defamation

law. The fact that content published online can, cross international borders instantly, complicates jurisdictional issues. Different countries have varying standards and protections for freedom of speech and defamation, which makes it incredibly difficult to apply a consistent legal framework across platforms. A notable example is the right to be forgotten in the European Union, which allows individuals to request the removal of information about them from search engine results under certain conditions. This right highlights the tension between privacy, free speech, and the permanence of online information. Additionally, Eltis (2011) argues that the digital age challenges traditional notions of free speech, especially in the context of hate speech, which would necessitate a reevaluation of the “marketplace of ideas”. The complex and at the same time, international social context of digital media and social networks is largely explained in a comprehensive and thorough study that Bailey and Steeves (2017) published about challenges for young users of digital media in cases of defamation law. Their research highlights that the ubiquitous nature of social media and online platforms has significantly altered how young individuals interact with information and communicate with each other. Thus, this demographic often lacks awareness of the legal implications of their online activities. Such a situation can make them susceptible to both perpetrating and falling victim to defamation. The study also emphasizes the need for improved digital literacy as a tool to empower young people to understand their rights, as well as their responsibilities online. Bailey and Steeves (2017) argue that legal systems must adapt to the realities and face the fact that young users are at the forefront of digital communication. Therefore, it is not enough only to revise existing laws and ensure that they better reflect the digital landscape but also to consider the development of youth-friendly legal resources and support systems, proposing that legal education should become an integral part of school curricula, helping to bridge the gap between young people’s digital lives and the legal frameworks that govern their online behavior. Understanding these circumstances helps to create more effective legal strategies in addressing the nuances of defamation in the digital realm. This needs collaboration between lawmakers, technology companies, and civil society to ensure at the same time a balanced approach that respects both the need for free and open communication and the protection of an individual’s reputation

Media Responsibilities in the Digital Era

Media outlets in the digital age face the challenges of maintaining accuracy amidst the pressure for speed. Traditional media organizations maintain editorial and fact-checking to ensure the reliability of their reporting and avoid legal issues. However, in the fast-paced digital media environment, the line between traditional journalism and user-generated content is often blurred, making it difficult to maintain the same level of scrutiny (Schellekens, 2006). As digital platforms serve more and more as primary news sources, there is a need for them to adopt more rigorous standards to verify information before publication. This includes employing dedicated fact-checkers and utilizing technology to detect misinformation and potentially defamatory content. Gillespie (2018) argues that platforms must take proactive steps to ensure that content shared on their sites is accurate and not misleading. With the implementation of a system of robust verification, digital media can uphold its responsibility to provide truthful and reliable information to the public. The democratization of information through the rise of the internet and digital media has raised important ethical questions about the balance between freedom of speech and the potential harm of false information. While digital platforms provide a space for diverse voices and perspectives, at the same time they also have a responsibility to prevent the spread of defamatory content. Gatekeeping of information and implementing policies that address misinformation and hate speech while respecting freedom of expression for Suzor (2019) is the main role of digital platforms. This involves setting and enforcing clear community guidelines to ensure consistent protection of the users and prevent harm. These fundamental principles can be applied to content that may be defamatory, and the responsibilities of digital platforms remain the same. It is a big challenge for digital media platforms, as Gillespie (2018) noticed because they must navigate the challenges posed by algorithms that put engagement over accuracy. Algorithms designed to maximize user interaction can amplify sensationalist or misleading content, undermining the platform’s commitment to responsible information dissemination. Media platforms must recognize their role in shaping public discourse and strive to balance commercial interests with ethical obligations, even without a direct legal obligation. This may require a re-evaluation of algorithms that put informative and accurate content as a priority, rather than simply engaging. So ethical

algorithm design as Kenyon (2018) argues, is crucial for maintaining public trust in digital media, as it influences what information users encounter and how they perceive it. In addition to addressing misinformation, digital media platforms must also take responsibility for protecting user privacy and data security. The vast amount of personal information collected by these digital platforms necessitates stringent data protection measures to be put in place to prevent misuse and unauthorized access. Data collection transparency for Schellekens (2006), ensures that users are informed about how their information is used and stored, and provides them direct control over their data. Furthermore, Kreiss and McGregor (2019) highlight that safeguarding user data is a legal obligation and an ethical imperative for fostering a trustworthy digital environment. It is important to be aware that the global reach of digital media presents both opportunities and challenges for media responsibility. Digital media platforms, as Suzor (2019) points out, must be sensitive to local laws and norms while upholding universal human rights principles. This requires collaboration with international organizations, governments, and civil society to develop frameworks that promote responsible media practices on a global scale.

This situation leads us to understand how necessary is to create transnational regulatory approaches that respect cultural differences while ensuring consistent standards of accountability (Gillespie, 2018). The concept of intermediary responsibility is a great challenge for Frosio (2017), who raises it as a question and tries to examine how digital platforms should navigate their roles as facilitators of content. He argues that while intermediaries should not be held liable for all user-generated content, they should bear some responsibility for preventing and addressing harmful content, including defamation. Frosio (2017) advocates for a balanced approach that encourages platforms to implement effective content moderation systems without overburdening them with excessive legal liability. He also suggests that the shift from liability to responsibility involves recognition of the proactive role that platforms can play in managing online content. This atmosphere includes the development of advanced algorithms and moderation tools that can identify and address harmful and defamatory content before it causes reputational damage. He also emphasizes the importance of transparency and accountability, urging platforms to establish clear policies and communicate them effectively to users. The

digital era fundamentally transforms media responsibilities, requiring a nuanced approach to accuracy, ethics, and user protection. As digital platforms continue to grow and evolve, they must embrace their role as information managers and take proactive steps to ensure their practices align with the truth, fairness, and accountability. By doing so, digital media can contribute positively to society and maintain public trust in an increasingly complex information landscape.

In principle, Banjo and Dokunmu's (2023) research shows that liability for defamatory content posted on social media is not limited to the author. It may be extended to an internet service provider (ISP), the website operator, or an employer. While it may be tempting to sue the host or ISP who made the defamatory statement, the ISPs may have more money to sway decision-makers than the defamed person. Again, the Communications Decency Act exempts website hosts and Internet service providers from most defamation actions. Another way is to ask that such defamatory materials be removed from social media platforms right away. Once the instances have been demonstrated, courts can adjust to the new realities of social media and defamation. People who make defamatory comments about others can now be held accountable for their comments, and this may affect not only the originators of such posts but also those who share the defamatory statements or materials because no post or shared post can be held anonymous during the process of proving that defamation has occurred. Active social media users are supposed to be educated and informed about using social media, communicating, and spreading information on these viral platforms. It is also obvious that social media users should take precautions to avoid being held liable for statements made, commented on, and shared on the many social media platforms available. This is because, in this fast-paced world where technology has advanced greater communication capabilities, the old-school legal principles of defamation have stayed true while being fundamentally more convoluted and amplified in the social media age. Therefore, a blogger or anyone who wants to post or comment on social media should double-check that all facts about the subject matter are correct or gathered before posting or submitting comments because once the send button is pressed, the message has gone viral. In such moments it is not possible to easily or quickly retrieve content before anyone sees or receives it.

Legal Boundaries and Policy Considerations

Defining legal boundaries and Policy Considerations is challenged by the rapid expansion of the internet and digital media. Initially, a prominent school of thought relying on the Libertarian tradition argued for the internet to remain unregulated, often called “cyber-anarchism.” Proponents highlighted the Internet’s decentralized nature, hoping it would lead society to a new era of free speech and unmediated communication. However, this vision proved overly optimistic in several aspects. The initial expectation of disintermediation understood as the removal of intermediaries in information dissemination, did not occur as expected. Instead, the internet witnessed a sharp rise in intermediation via search engines, internet service providers (ISPs), online marketplaces, and portals. These entities became indispensable in helping users navigate the available online content, making them effective gatekeepers. This was a necessary shift to reduce transaction costs associated with identifying relevant information and assessing its reliability. As Kreiss and McGregor (2017) note, these intermediaries now play a critical role in filtering and organizing content, challenging the notion of a completely unregulated digital space.

The U.S. legal framework, as an example, in cases of defamation, places significant emphasis on the principles of safe harbor and intermediary immunity as Park (2015) states. That situation contrasts with the more restrictive approaches seen in other jurisdictions. In that context, Riordan (2013) stressed the need for a balanced approach when it comes to internet intermediaries, they still need to protect free expression while addressing defamation at the same time. The second approach is the idea of the internet as some sort of “Wild West”, free from regulation was soon put to bed. Despite its global nature, online activities were mediated by powerful facilitators capable of acting as gatekeepers for various civil wrongs (Suzor, 2019). Those facilitators have shown their power to control content and enforce their rules. In those circumstances Kenyon (2018) points out that the digital environment has increasingly mirrored offline legal principles, requiring accountability and adherence to established norms. Moreover, most online wrongdoing was not new but a continuation of existing issues, such as defamation, privacy violations, and copyright infringement, albeit in a new medium (Gillespie, 2018). These problems persisted

and called for legal frameworks that handled them effectively. Governments and regulatory agencies have attempted to extend existing laws into the digital context while developing new regulations for handling emerging challenges.

For example, the European Union’s General Data Protection Regulation (GDPR) is a comprehensive attempt to address data privacy concerns in the digital age (Schellekens, 2006). Therefore, Cate (1996) in “Law in Cyberspace,” provides one of the first but most astute analyses of the developing legal issues surrounding the new digital medium. The mentioned research showed, for a mid-90s publication, a remarkable amount of foresight into many of the problems still posed today by jurisdictional complexities, enforcement across digital borders, and shifting privacy. Cate advocates a flexible legal regime that can keep pace with the changing technology of cyberspace. Hence, traditional legal regimes are inefficient in tackling the new challenges of the Internet and need new legal principles that match the dynamic character of the digital environment. Cate’s analysis remains relevant today as it underscores the foundational challenges of regulating cyberspace. The worldwide and borderless spans of the Internet and posted content present complications for applying national laws. So, it is suggested that cooperation and coordination at the international level of legal systems are necessary if they are going to have a sense of cyberspace problems, legal frameworks must evolve with technological innovation to remain effective and relevant.

One of the key concepts for understanding Internet regulation is territorial fragmentation of content. In this regard, geolocation and filtering technologies enable intermediaries to handle liability under disparate censorship regimes of countries and, therefore avoid access to content that may violate local laws, like contempt of court or copyright infringement (Kreiss & McGregor, 2017). Territorial localization ensures that the rule of law is maintained, even in the digital realm. However, scholars acknowledge that intermediaries must be shielded from some liability that conventional offline rules might impose (Suzor, 2019). This has built a long history of debate around how far intermediary liability needs to be treated with regulation, with some advocating for stricter regulations, to hold platforms accountable (Gillespie, 2018).

The debate over intermediary liability remains at the center of policy considerations in

digital media. While one side argues for holding platforms more accountable for the content they host, another side advocates for limited liability, to preserve the openness and innovation that characterized the development of the Internet. The Communications Decency Act (CDA) Section 230 in the United States is a pivotal piece of legislation in this regard, and it has shaped this discourse by granting immunity to online platforms from liability for content generated by its users. However, since its inception, this legal shield has been subject to scrutiny and calls for reform, especially in light of concerns about misinformation and harmful content. Very important to mention is a critique of the myths surrounding Section 230 of the Communications Decency Act as Citron and Franks (2020) note. It grants broad immunity to online platforms from liability for user-generated content. They advance further and say that such legal protection is often misinterpreted as absolute protection that allows digital platforms to shirk their responsibility for a plentitude of harmful content, which includes defamation. So, a culture of unaccountability in digital social media ensures that companies can continue to put profit over safety. The authors advocate for reforms that would make platforms more liable for the content they host, without undermining the freedom of speech provided by the internet. The authors propose a balanced approach to reforming Section 230, suggesting that digital platforms should be incentivized to adopt more proactive measures in content moderation and transparency. Including implementing a robust system to identify and mitigate harmful content at the outset and establishing clearer guidelines for content removal. While thinking in the same direction, Citron and Franks (2020) emphasize that the reform of Section 230 should aim to align legal incentives with public interests, encouraging platforms to act responsibly without stifling innovation or free expression. Balancing regulation with innovation is a complex task for policymakers.

The need for a nuanced approach is highlighted in Gillespie's (2018) works reminding us to consider the unique nature of digital media while safeguarding public interests. This would involve encouraging policies for transparency, accountability, and user empowerment without stifling technological advancement. Later in his works, Suzor (2019) emphasizes the importance of involving diverse stakeholders. This means cooperation between governments, civil society, and industry players to ensure equitable and

effective regulations. Therefore, the need to adapt traditional legal principles to a rapidly evolving digital era shaped the legal boundaries and policy considerations. The initial vision of an unregulated internet has passed and given way to a more structured approach, where intermediaries play a crucial role in managing content and upholding legal standards. As digital media continues to evolve, policymakers navigate the complexities of regulation to ensure that the internet remains a space for innovation and free expression while still managing the protection against harm and ensuring accountability. The future of digital media regulation will likely involve ongoing dialogue and collaboration among various stakeholders to address emerging challenges and opportunities.

Conclusion

As we navigate the complexities of the digital era, the interplay between defamation law and media will continue to evolve through challenges and opportunities for legal systems worldwide. The rapid dissemination of information and the rise of user-generated content on digital platforms have altered the landscape of public discourse at its core. As these developments democratized and expanded access to information, they have also increased the potential for the spread of defamatory content, posing significant challenges to traditional legal frameworks. Throughout this paper, we have explored the transformation of defamation law in response to the unique characteristics of digital media. In particular, we looked at the decentralized nature of the Internet and the global reach of social media platforms that have complicated jurisdictional issues and highlighted the increasing need for adaptable legal mechanisms. As legal literature presented, existing laws often struggle to keep pace with technological advancements, necessitating ongoing reforms and international cooperation to address cross-border defamation. Even though traditional media, with its established editorial processes and legal oversight, serves as a benchmark for ensuring accuracy and accountability in reporting and information sharing more broadly, digital media's unregulated environment demands a reevaluation of how defamation is addressed in a world where any person can publish endless amounts of content with minimal oversight. The role of intermediaries, such as social media platforms and search engines, is pivotal in this context, as they have emerged as the new gatekeepers of information, with incredible power to influence public discourse and mitigate

the spread of defamatory content. Looking to the future, it is crucial to balance between protecting individuals' reputations, preserving the fundamental principles of free speech, and innovation that were always at the core of the internet. This process requires ongoing dialogue and collaboration among legal experts, policymakers, technology companies, and civil society to develop nuanced approaches that consider diverse legal traditions and cultural contexts of different jurisdictions. Therefore, defamation law in the digital age is a dynamic and evolving field, that demands an adaptive legal framework. It needs to balance the requirement of strong protection for reputation with the imperative of freedom of speech because of the special challenges of digital media. By fostering a comprehensive understanding of the legal, social, and technological factors at play, and through international collaboration and innovative legal strategies, we can work towards safeguarding individuals' reputations while promoting a vibrant and open digital landscape.

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ORIGINAL RESEARCH PAPER

LINGUISTIC WHATEVERISM – A STUDY ON AN (IN)CONSISTENCY IN LINGUISTIC BEHAVIOR BASED ON THE USAGE OF ANGLICISMS

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ABSTRACT

This study investigates the phenomenon of linguistic whateverism among Bosnian high school students, focusing on the usage of English loanwords in everyday speech. A survey was conducted to assess the prevalence, frequency, and contextual factors influencing the integration of Anglicisms into Bosnian language use. The findings reveal that 71.5% of participants incorporate English words into their conversations, primarily in informal settings and often when communicating with peers who possess similar English proficiency. While many students display a relaxed attitude toward language mixing, with 72.6% expressing indifference towards the use of English in Bosnian, a significant portion (67.0%) expresses concern over the potential erosion of the Bosnian language. The analysis indicates that the influence of English is particularly strong in contexts related to technology and social media, suggesting a shift towards linguistic pragmatism among youth. Despite the high acceptance of Anglicisms, there remains a notable desire to preserve the integrity of the Bosnian language. These findings underscore the complexity of language evolution in a globalized context and highlight the need for ongoing dialogue about linguistic identity and cultural preservation among young speakers.

Keywords: linguistic whateverism, English loanwords, Bosnian language, language mixing, cultural preservation



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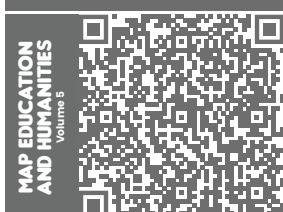
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1. Introduction

As in the contemporary world of rapid globalization and contacts all languages can donate to or receive from the languages they are in contact, it is accepted that only languages with global scope of usage are in a position of a donor. Speakers who have learned a second language introduce elements of it into their mother tongue, thus leading to a language borrowing. As, according to Görlach (1994), English language has been the most expansive language in the world, and thus accepted as a *lingua franca*, it is inevitable that English borrowed words are dominant loanwords. English language, especially its American variant is through political, economic and social leadership in general, recognized as a must-have skill for the modern (global) world.

However, language borrowing as a fact of modern language contacts does not have to go to the extent of inserting and using words in one's language without control, filtering, or general linguistic need. This topic is mostly dealt with by language purists (Académie Française, n.d.; Herder, 1772; Íslensk Málnefnd, n.d.). What needs to be dealt with in addition to this is the issue of linguistic consistency and linguistic behavior when there is a mixing of domestic and foreign words in speech and writing. Researchers note that speakers, especially young people, without paying attention to how to express themselves, choose and mix words from several languages.

Given that the trend of this linguistic "relaxation" has spread to a wide range of speakers, primarily young people, the term "whatever" generation has been introduced in science, and the whole phenomenon is called "linguistic whatever-ism" (Baron, 2002). Certainly, the term „whatever“ means anything's OK; let's not fight over it; whatever you do or say – including however you say or write it – is fine, and such.

Language borrowing, as a natural result of language contact, has been a constant phenomenon throughout history. In the contemporary globalized world, languages frequently exchange elements, typically through vocabulary. However, this exchange is asymmetrical: languages with greater global influence, like English, act predominantly as donors, while other languages serve as recipients (Görlach, 1994). English, particularly in its American form, has become the dominant donor due to political, economic, and cultural hegemony. As a *lingua franca*, English exerts significant pressure on other languages, resulting in the widespread incorpora-

tion of Anglicisms—English loanwords—into various languages (Görlach, 2002; Crystal, 2003).

While language borrowing is often seen as a neutral or beneficial process, language purists express concern over the uncontrolled insertion of foreign terms, fearing it undermines linguistic integrity. Institutions like the Académie Française, as well as scholars such as Johann Gottfried Herder, advocate for the filtering and adaptation of loanwords to maintain language purity (Académie Française, n.d.; Herder, 1772; Íslensk Málnefnd, n.d.). This purist stance stands in contrast to a growing trend of linguistic behavior characterized by inconsistency, nonchalance, and an increasing disregard for linguistic norms—a phenomenon referred to as "linguistic whateverism."

The concept of linguistic whateverism, first articulated by Baron (2002), describes a casual and inconsistent approach to language use. Whateverism reflects an indifference to language rules and an "anything goes" mentality in speech and writing, particularly among younger generations. It is rooted in the idea that speakers often mix languages without concern for linguistic coherence, reflecting a lack of care over the choice of words or linguistic purity.

According to Baron (2008), the rise of linguistic whateverism is largely driven by the permeation of Anglicisms in everyday speech. This phenomenon is not limited to loanwords but extends to the mixing of syntactic structures, idioms, and even pronunciation patterns from English into other languages. The term "whatever generation" refers to young people who, due to their frequent exposure to English via media, the internet, and education, have normalized this linguistic relaxation.

Linguistic whateverism stands in direct contrast to language purism, which advocates for controlled borrowing and language maintenance. While whateverism reflects a relaxed, open approach to language mixing, purism stresses the importance of language preservation and integrity (Thomas, 1991). For purists, the unchecked infiltration of Anglicisms is seen as a threat to the cultural and linguistic identity of a speech community (Schiffman, 1996).

In contrast, proponents of linguistic flexibility argue that languages evolve and adapt through borrowing, and Anglicisms can enrich rather than degrade a language. However, the key issue remains one of balance—between borrowing as a natural linguistic process and whateverism as a

careless disregard for linguistic standards (Hjarvard, 2004). Scholars like Haugen (1950) and Crystal (2003) argue that while some degree of language mixing is inevitable, the lack of consistency in language use undermines effective communication and linguistic clarity.

In conclusion, linguistic whateverism, particularly in the context of Anglicisms, represents a growing trend among younger speakers who engage in relaxed and inconsistent linguistic behavior. Factors such as uncertainty over the meaning of English terms and a general sense of linguistic nonchalance contribute to this phenomenon, which stands in contrast to language purism and efforts to maintain linguistic integrity. By examining the extent to which Bosnian youth engage in whateverism through their use of Anglicisms, this research seeks to explore the implications of such linguistic behavior for the future of the Bosnian language.

This paper deals with the research on the emergence of whateverism in the context of the use of Anglicisms among young people. The research examines whether and to what extent the Bosnian youth, high school students, use English loanwords instead of Bosnian equivalents and whether or not they care which words they use in everyday expression. In other words, it is crucial to examine, as Baron (2008) puts it, whether the choice matters.

2. Literature review

Linguistic whateverism has gained attention as a significant linguistic phenomenon, particularly in the context of global language interactions. The rise of linguistic whateverism has several implications for language use and cultural identity. First, it challenges traditional notions of language purity. Language purists express concerns that the indiscriminate incorporation of foreign elements, particularly Anglicisms, threatens the integrity and richness of recipient languages (Schiffman, 1996). This purist perspective emphasizes the importance of maintaining linguistic standards and preserving cultural identity in the face of globalization. Conversely, proponents of linguistic flexibility argue that whateverism can enrich language. As languages evolve and adapt through borrowing, the mixing of linguistic elements can lead to innovative expressions and a more dynamic communication style (Haugen, 1950; Crystal, 2003). This perspective posits that the fluidity of language reflects cultural exchange and adaptability, essential characteristics in a globalized world.

One of the critical discussions surrounding linguistic whateverism is its impact on communication effectiveness. Critics argue that the lack of consistency and care in language use can lead to misunderstandings and hinder effective communication (Schiffrin, 1994). While linguistic flexibility can promote creativity, it may also compromise clarity and precision, essential components of effective discourse.

On the other hand, supporters contend that whateverism does not inherently detract from communication. They argue that meaning often transcends strict grammatical rules, and the ability to convey ideas effectively can still be achieved through informal language practices (Biber & Conrad, 2009). This perspective emphasizes the adaptability of language and the importance of context in determining communication success.

One of the key drivers of linguistic whateverism is uncertainty or ignorance regarding the precise meaning or usage of English words. Young speakers may incorporate English terms into their speech without fully understanding their implications, often resulting in incorrect or imprecise usage (Baker, 2006). This phenomenon is further exacerbated by the global dominance of English in digital media and entertainment, which exposes non-native speakers to a deluge of English terms in informal settings, where correct usage is not prioritized.

Studies show that language learners and bilingual individuals often experience “semantic interference,” in which the boundaries between languages blur, leading to unintended mixing (Odlin, 2005). For example, Bosnian youth frequently substitute Anglicisms for native terms without being fully aware of the meaning of the borrowed word, a practice linked to linguistic insecurity and a desire to appear cosmopolitan or modern (Haugen, 1950).

Another significant factor contributing to linguistic whateverism is a general sense of relaxation and nonchalance in linguistic behavior. In an increasingly informal world, linguistic precision is often deemed unnecessary, particularly in digital communication contexts such as social media, texting, and online gaming (Baron, 2008). Here, speakers prioritize efficiency, brevity, and trendiness over adherence to traditional linguistic norms, leading to an increase in the use of Anglicisms even when equivalent native terms are available.

Research by Crystal (2003) highlights how linguistic nonchalance is tied to the evolution of informal language in the digital age. The internet and

global communication technologies encourage language play and experimentation, blurring the lines between languages and making loanwords a natural part of daily expression. Among Bosnian youth, this phenomenon manifests as a frequent substitution of English words in casual conversation, often without reflection on the appropriateness or necessity of the borrowed term (Filipović, 2019).

Anglicisms in the modern Bosnian language, despite their prevalence and significant impact on contemporary linguistic processes, remain largely unexamined (Ajšić, 2014; Sehović, 2009). The relatively brief 28 years of independence for post-war Bosnia and Herzegovina, coupled with its challenging political landscape and resulting economic and educational struggles, have left the Bosnian language lagging in educational research that Serbian and Croatian languages have already experienced. Historically, Bosnia and its languages have been receptive to external political and linguistic influences, which have led to the erosion of native vocabulary (Klajn, 2001).

It is notable that many Anglicisms are core borrowings (Myers-Scotton, 2006) incorporated into the Bosnian language despite the existence of suitable native alternatives. For instance, the term *kompjuter* (from “computer”) has the Bosnian equivalent *računar*; *struktura* (from “structure”) corresponds to *sastav*; *tenzija* (from “tension”) has the native word *napetost*; *vizija* (from “vision”) matches with *videnje*; *kompatibilno* (from “compatible”) is represented by *s(u)kladno*; and *bukmark* (from “bookmark”) can be substituted with *bilješka*, among others. The prevalence of these loanwords, according to Perković (2016) could pose a risk to native regional languages. This phenomenon is particularly evident in the naming of many businesses in B&H, where original English terms are directly used in Bosnian (e.g., *Mevludin commerce*) despite equivalent Bosnian terms such as *preduzeće*, *trgovina*, and *poslovanje*. Additionally, some borrowed words may have their meanings narrowed when adopted into the recipient language, while others may see their meanings broadened (Bojčić & Braović-Plavša, 2012).

Skopljak and Dubravac (2019) examined the preferences of Bosnian native speakers for using borrowed terms compared to native words. With most participants having been exposed to English, they discovered that participants favored native words over foreign English terms. Furthermore, they noted that younger participants showed a greater preference for English words than older ones, and that borrowings predominantly occur through

nouns, which are “at the top of the list of borrowed words” (p. 140). Similar findings are reported by Šijerkić and Milak (2018), who state that most borrowings in the Bosnian language are also nouns.

Anglicisms in the Bosnian language originate from various aspects of life. Their functional use impacts different semantic fields, but they are primarily noted by researchers in specific areas such as technology (Barbe, 2004; Sočanac, 2009), media, sports, business, politics, law, entertainment (Tomić, 2018), fashion (Klajn, 2001; Oikonomidis, 2003), music (Kajtažović, 2012), and everyday communication. Additionally, a significant source of Anglicisms in Bosnian comes from advertisements found in the media and displayed in public spaces like streets and shopping centers, where advertising creates a demand for these terms (Sehović, 2009).

Research on Anglicisms encompasses grammatical analyses of both nominal and verbal borrowings since borrowed words can not only shift in meaning but also change their grammatical forms. For example, a borrowed noun can be transformed into a verb or adjective, and vice versa. Consequently, numerous foreign studies (Czech-Rogowska & Krawiec, 2018; Higuera Amigo, 2019) and domestic research (Sehović, 2009; Šijerkić & Milak, 2018; Tomić, 2018) have included this type of analysis in their work.

Bearing in mind the importance of these studies for the research on the utility of foreign languages in secondary schools, especially in religious schools, this study poses the following questions as its interest:

RQ1. How does the integration of English loanwords into everyday Bosnian speech affect language attitudes and perceptions of linguistic purity among Bosnian youth?

RQ2. Do high school students pay attention to the consistency in language use or they do not care and use whatever comes to their minds?

3. Methodology

3.1 Data collection and participants

This study employed a quantitative approach in which 179 religious secondary school students in the „Osman-ef. Redžović“ madrasah were interviewed. The data in **Table 1** below provides descriptive statistics about the participants, categorized by several variables: Grade, Gender, English Language (EL) Usage, EL Self-Assessment,

and Residence. These statistics give insights into the demographic and linguistic background of the participants, which can provide context for further analysis of their educational performance, language proficiency, or any other related research objectives. Here is an interpretation and explanation of each section:

The majority of participants are from **Grade 2** (49.2%), followed by **Grade 3** (24.0%). Grades 1 and 4 have fewer participants, with **Grade 1** having the least representation at **10.6%**. This distribution shows a skew towards younger students in this sample, with a substantial proportion from the second grade. As for the gender, there are more **female** participants (60.9%) than **male** participants (39.1%), indicating a gender imbalance in this sample, with females making up nearly two-thirds of the total.

Over half of the participants (**53.1%**) report using English regularly, while **38.5%** use it only sometimes. A small proportion (**8.4%**) do not use English at all. This indicates that the majority of participants have some level of English language exposure or usage, with a notable percentage using it on an occasional basis. Besides, participants assessed their English proficiency with **41.3%** considering themselves **able to communicate**, followed by **31.8%** rating their skills as **excellent**. A smaller group (**26.8%**) self-assessed as having **basic** skills. This suggests that a significant portion of the sample is confident in their English language abilities, with only a minority feeling they have limited proficiency. A larger proportion of participants come from **rural areas** (**60.3%**), while **39.7%** are from **urban areas**, which might influence the participants' experiences, particularly in relation to language usage and exposure.

In short, the total sample size is 179 participants, with a nearly balanced distribution across various categories. The data reveals that:

- **Grade:** The participants are predominantly from **Grade 2**.
- **Gender:** There is a notable female majority.
- **EL Usage:** Most participants use English regularly, and a large number feel confident in their English skills.
- **Residence:** The majority of participants are from rural areas.

Table 1.
Participants

		Frequency	Percent
Grade	1	19	10.6
	2	88	49.2
	3	43	24.0
	4	29	16.2
Gender	Male	70	39.1
	Female	109	60.9
EL usage	Yes	95	53.1
	No	15	8.4
	Sometimes	69	38.5
EL self assessment	Basic	48	26.8
	Able to communicate	74	41.3
	Excellent	57	31.8
Residence	Urban area	71	39.7
	Rural area	108	60.3
Total	179	100.0	100.0

3.2 Instrument

The research instrument utilized for this study comprised a structured questionnaire designed to gather quantitative and qualitative data on the use of English loanwords among Bosnian high school students. The questionnaire was divided into two main sections, each addressing different aspects of language use and attitudes towards Anglicisms.

Part One: Usage and Attitudes towards English Loanwords

The first section of the questionnaire consisted of a series of closed and open-ended questions aimed at assessing participants' habits, frequency, and contexts of English word usage in everyday speech. The questions included:

1. Do you have a habit of using English words in everyday speech?
2. How often do you use English words in everyday speech?
3. If you use English words at all, in whose company do you use them?
4. Do you notice if one of your friends uses English words when speaking in Bosnian?

5. Which of your peers uses English loanwords more?
6. When your friends use English words in the Bosnian language, how do you feel about it?
7. Can English words threaten the Bosnian language (e.g., if Bosnian youth use English words more and more instead of existing Bosnian words)?
8. Is it important for you to use Bosnian words even when English words are used in your environment?
9. Do you think that in the future some Bosnian words could be completely replaced by English?
10. If YES, would it be negative for the Bosnian language?

This section aimed to capture not only the frequency and contexts of English word usage but also participants' perceptions of the implications of this usage for the Bosnian language.

Part Two: Preferred Expression in the Context of Anglicisms

The second section of the questionnaire focused on the participants' preferred expressions when faced with Anglicisms. Respondents were presented with three options to express how they would articulate specific terms, allowing for insights into their attitudes towards language choice:

1. Use the Anglicism (e.g., "party")
2. Use the Bosnian equivalent (e.g., "zabava")
3. Indifferent/Whatever option (indicating a lack of preference)

This part of the questionnaire was designed to further explore the participants' linguistic flexibility and their inclination toward language mixing, particularly in domains heavily influenced by English.

Overall, the questionnaire aimed to provide a comprehensive understanding of how Bosnian youth engage with English loanwords, their attitudes towards language preservation, and the potential implications for the future of the Bosnian language.

3.3 Data analysis

The data were analyzed to test the study's hypotheses using descriptive statistics, specifically through the computation of percentages, means, and standard deviations. This approach allowed for a comprehensive understanding of English loanword usage among Bosnian high school students.

4. Results

4.1. Exposure to English language (EL) terms and attitudes towards them

The results, presented in Table 2 below, show a complex picture of participants' exposure to English words, their usage habits, and attitudes toward how English loanwords interact with the Bosnian language. The data reflects not only the frequency of English word use but also participants' concerns about the potential influence of English on their native language.

Table 2.
Exposure to EL-based terms and attitudes towards them

		N	%
Do you have a habit of using English words in everyday speech	Yes	128	71.5
	No	51	28.5
How often do you use English words in everyday speech	Always	11	6.1
	Often	56	31.3
	Sometimes	100	55.9
	Never	12	6.7
If you use English words at all, in whose company do you use them	-when I am in the company of peers who are the same or better than me in English	76	42.5
	-with all peers regardless of their knowledge of the English language	44	24.6
	-I use them no matter who I'm talking to	40	22.3
	-I don't use them at all	19	10.6

Do you notice if one of your friends uses English words when speaking in Bosnian	Yes	166	92.7
	No	13	7.3
Which of your peers uses English loanwords more?	Boys	49	27.4
	Girls	130	72.6
When your friends uses English words in Bosnian language:	-it bothers me	18	10.1
	-it doesn't sound natural to me	31	17.3
	-it doesn't matter to me	130	72.6
Can English words threaten the Bosnian language (e.g. if Bosnian youth use English words more and more instead of existing Bosnian words)	Yes	120	67.0
	No	38	21.2
	it doesn't matter to me	21	11.7
Is it important for you to use Bosnian words even when English words are used in your environment?	Yes	95	53.1
	No	25	14.0
	it doesn't matter to me	59	33.0
Do you think that in the future some Bosnian words could be completely replaced by English?	Yes	113	63.1
	No	47	26.3
	it doesn't matter to me	19	10.6
If YES, would it be negative for the Bosnian language?	Yes	123	68.7
	No	16	8.9
	it doesn't matter to me	30	16.8

Prevalence of English Word Usage in Everyday Speech

A large proportion of participants (**71.5%**) reported having a habit of incorporating English words into their everyday conversations, illustrating a significant level of bilingual interaction in informal communication. However, **28.5%** of the participants stated they do not use English words, indicating that a significant minority prefer or adhere to Bosnian-only speech patterns in daily life.

Frequency of English Word Usage

In terms of frequency, the majority of English word users incorporate these terms only **sometimes** (**55.9%**) and **31.3%** of participants report

using English terms **often**. A small subset (**6.1%**) reported using English words **always**, while **6.7%** claimed they **never** use English words.

Contexts in Which English Words Are Used

A significant proportion of the participants (**42.5%**) reported that they tend to use English words when they are in the company of peers who have equal or superior English proficiency. Interestingly, **24.6%** use English words regardless of their peers' English proficiency. Furthermore, **22.3%** reported using English words regardless of who they are talking to. On the other hand, **10.6%** stated they do not use English words at all.

Awareness of Friends' Use of English Words in Bosnian Speech

A striking **92.7%** of participants said they notice when their friends use English words while speaking Bosnian. Despite the frequent use of English words by friends, most participants (**72.6%**) stated that it **does not matter to them** when their friends mix English with Bosnian. However, **17.3%** of participants indicated that hearing English words in Bosnian **does not sound natural** to them, while **10.1%** said it **bothers them**.

Concerns About the Impact of English on the Bosnian Language

A significant portion of the participants (**67.0%**) expressed concern that the increasing use of English words could **threaten the Bosnian language**, particularly if Bosnian youth start replacing native Bosnian words with English equivalents. Nonetheless, **21.2%** did not perceive this as a threat, and **11.7%** were indifferent, showing a split in attitudes, with some participants feeling that language change is either neutral or inevitable.

Importance of Using Bosnian Words

Over half of the participants (**53.1%**) felt it is important to maintain the use of Bosnian words even in environments where English words are frequently used. Meanwhile, **33.0%** said it **does not matter** to them. A smaller group (**14.0%**) indicated that it is **not important** to them to maintain the use of Bosnian, reflecting a more relaxed attitude towards language purity.

Concerns About Future Language Change

Looking to the future, **63.1%** of participants believe that some Bosnian words could eventu-

ally be replaced by English terms. However, **26.3%** of participants did not believe this would happen. **10.6%** were indifferent to the possibility, suggesting some participants are not particularly concerned about the future of language change.

Perceived Negative Impact of English Replacing Bosnian Words

Among those who believe English could replace Bosnian words, **68.7%** felt that such a development would be negative for the Bosnian language. Conversely, **8.9%** of participants did not view this potential change as negative, and **16.8%** were indifferent.

Based on the findings, English word usage has become prevalent among the majority of participants in informal speech, influenced by factors such as media and education. The data shows a general acceptance of English integration, but also highlights the presence of a significant group worried about language preservation.

4.2. Preferred way of expression

This section presents the results of the study, focusing on respondents' preferences for using Anglicisms, native Bosnian terms, or expressing indifference when referring to various terms in everyday communication. The analysis (presented in Table 3 below) reveals patterns in language use across different contexts, including technology, social media, and personal expression.

Table 3.
Preferred way of expression

How will you express yourself most often?			
TERM	WAY OF EXPRESSION	N	%
OK	Ok	83	46.4
	„uredu“/„razumijem“ /„dogovoreno“	64	35.8
	I don't care, whatever	32	17.9
LIKE	„Jesi li lajkao“	103	57.5
	„Svida li ti se“	48	26.8
	I don't care, whatever	28	15.6

CHAT	“Čet”	137	76.5
	“Razgovor”	25	14.0
	I don't care, whatever	17	9.5
CELEBRITY	“Selebriti”	57	31.8
	“Poznata osoba”	90	50.3
	I don't care, whatever	32	17.9
DOWNLOAD	“Daunloudovati”	76	42.5
	“Skinuti sadržaj sa interneta”	76	42.5
	I don't care, whatever	27	15.1
HAPPY	“Hepi”	49	27.4
	“Sretan”	103	57.5
	I don't care, whatever	27	15.1
PASSWORD	“Pasvord”	54	30.2
	“šifra”; “korisničko ime”	100	55.9
	I don't care, whatever	25	14.0
ONLINE	“Onlajn”	45	25.1
	“na mreži”	112	62.6
	I don't care, whatever	22	12.3
LEADER	“Lider”	45	25.1
	“vođa”	112	62.6
	I don't care, whatever	22	12.3
COMPUTER	“Kompjuter”	136	76.0
	“računar”; “kompjuter”	20	11.2
	I don't care, whatever	23	12.8
PARTY	“Parti”	67	37.4
	“zabava”	73	40.8
	I don't care, whatever	39	21.8
USERNAME	“Juzernejm”	130	72.6
	“korisničko ime”	26	14.5
	I don't care, whatever	23	12.8

	“Šoping”	106	59.2
SHOPPING	“kupovina”	40	22.3
	I don't care, whatever	33	18.4
	“Frend/frendica”	44	24.6
FRIEND	“prijatelj/prijateljica”	106	59.2
	I don't care, whatever	29	16.2
	“Folover”	119	66.5
FOLLOWER	“pratilac”	40	22.3
	I don't care, whatever	20	11.2
	“Lajv”	125	69.8
LIVE	“uživo”	30	16.8
	I don't care, whatever	24	13.4

The findings of this study reveal a nuanced and evolving linguistic landscape in Bosnia, where both Anglicisms and native Bosnian terms coexist among college-aged Bosnians, depending on the context. The strong preference for Anglicisms in technology-related terms, such as **“Čet”** (76.5%) and **“Juzernejm”** (72.6%), is indicative of the deep influence of English in the digital sphere. These terms, originally coined in English, are now so embedded in everyday speech that they are considered the norm, likely because they entered the lexicon alongside the technological innovations they describe. The frequent use of Anglicized words in these areas could also be attributed to the faster pace of change in technology, where adopting English terms is seen as more practical and reflects a trend of globalization and modernization.

Additionally, the data suggests that Anglicisms are not just passively adopted but are often viewed as more fitting for certain types of communication, especially when it comes to social media and online discourse. Terms like **“Lajv”** (live), **“Folover”** (follower), and **“Frend”** (friend) are associated with platforms and technologies that originated in English-speaking environments. These terms are more than just words—they are symbolic of a connected, globalized world where English is the default language for digital interactions. As these platforms become a core part of social life, the use of Anglicisms could signal a desire to be part of a modern, global community.

However, the preference for Bosnian translations in more culturally rooted terms, such as **“Sretan”** (57.5% for happy) and **“voda”** (62.6% for lead-

er), indicates that native language still holds significant emotional and cultural value. This preference suggests that respondents maintain a strong connection to their linguistic heritage when expressing personal or social concepts that are integral to their identity. For example, **“Sretan”** is not just a translation of “happy”; it is tied to cultural expressions of joy and contentment that are unique to the Bosnian experience. Similarly, **“voda”** conveys a sense of leadership grounded in local culture, which may feel more authentic or authoritative than the borrowed term **“Lider.”**

Another interesting finding is the balance between Anglicisms and Bosnian equivalents for some terms, such as **“Daunloudovati”** (download) and **“Skinuti sadržaj sa interneta”**, which both garnered **42.5%** of responses. This suggests that for some concepts, both linguistic options are viable, and speakers may choose based on the specific context or level of formality. In more formal settings, Bosnian terms might be preferred, while Anglicisms could dominate in casual conversations or among younger generations who are more influenced by global media.

One of the most interesting findings is the notable portion of respondents who indicated they are indifferent to whether they use the Anglicized or Bosnian term—this “whatever” option reflects a deeper trend of language fluidity and adaptability, and warrants closer examination.

Across many terms, a significant percentage of respondents selected the “I don't care, whatever” option, showing indifference to how they express particular words. For example, **17.9%** of respondents were indifferent when asked how they would say “OK,” and **15.6%** expressed no preference for the word “like.” This indifference is even more pronounced for some terms, such as **21.8%** for “party” and **18.4%** for “shopping.” This trend suggests that for many individuals, the distinction between Anglicisms and Bosnian terms is becoming less important, and they are comfortable using either form, depending on the context or conversational flow.

The prevalence of the “whatever” option suggests that linguistic pragmatism is on the rise. Respondents may not see the need to consciously choose between Bosnian and Anglicized terms, especially in informal contexts where communication is more about conveying a message quickly and efficiently rather than adhering to strict linguistic rules. This flexibility is likely influenced by exposure to multiple languages, particularly English through media, technology, and social networks. In these

spaces, Anglicisms often dominate, which may explain why respondents feel equally comfortable using them alongside Bosnian terms. For many, the meaning is clear regardless of the linguistic form, so the choice of word feels trivial.

Interestingly, the “whatever” option is most common in terms related to entertainment, technology, and social interaction—areas where English has a strong global presence. For instance, **21.8%** of respondents expressed indifference regarding how they say “party” (either “parti” or “zabava”), and **17.9%** had no preference for how they referred to a “celebrity” (either “selebriti” or “poznata osoba”). This suggests that in these domains, linguistic choices are often driven by the ease of communication and the influence of popular culture rather than a strong attachment to either Bosnian or Anglicized versions.

On the other hand, terms related to personal identity, emotions, and cultural heritage tend to have lower percentages of indifference. For example, only **12.3%** of respondents expressed indifference toward the term for “leader,” and just **12.8%** felt the same about “username.” Similarly, only **15.1%** were indifferent about how they would express the word “happy.” This suggests that in contexts where language is tied to personal or social identity, respondents are more likely to consciously choose between the Bosnian and Anglicized versions, perhaps due to a deeper emotional or cultural connection to these words. The lower levels of indifference in these categories imply that language choice is more meaningful when it touches on aspects of personal or collective identity.

5. Discussion and conclusion

The findings from this study provide a nuanced perspective on the role of Anglicisms in the speech of Bosnian youth, revealing both the pervasiveness of English loanwords and the complex attitudes surrounding their use. In light of the research questions, the results highlight significant trends that reflect broader themes of linguistic borrowing, identity, and the impact of globalization on language practices.

A large proportion of participants who reported having a habit of incorporating English words into their everyday conversations suggests that English has permeated the everyday speech of the majority of the participants, possibly due to the influence of media, technology, or education. In terms of frequency, while English words are present, they are not used continuously, suggesting that a

minority of participants maintain linguistic purity in their speech.

The social context plays a key role in participants’ use of English words. A significant proportion of the participants who reported that they tend to use English words when they are in the company of peers who have equal or superior English proficiency suggests more inclinations to use English words in environments where they feel their English language abilities are valued or required for mutual understanding. Still, for a non-negligible proportion of the participants, the use of English words may be habitual and independent of social context.

Furthermore, A striking **92.7%** of participants said they notice when their friends use English words while speaking Bosnian. This high percentage of the participants who notice when their friends use English words while speaking Bosnian suggests that the presence of English words in conversation is a noticeable and perhaps salient feature of peer interactions, indicating that the mixing of languages is a common and observed phenomenon among this population.

It is also indicative that a large proportion of the participants stresses a fear of language erosion or linguistic imperialism, where the native language could lose ground as English becomes more dominant in informal speech. This shows a commitment to preserving the native language and highlights an awareness of language mixing. Also, they perceive the influence of English as strong and potentially long-lasting, indicating that they feel confident in the resilience of the Bosnian language.

To conclude a RQ1, The integration of English loanwords into everyday Bosnian speech among youth is widespread, with 71.5% of participants using English words occasionally or frequently. While most are indifferent to this mixing, concerns about the potential loss of linguistic purity persist. A majority (67%) fear that English may replace Bosnian words, with 68.7% viewing this as negative. However, 53.1% still believe it’s important to maintain Bosnian vocabulary. Overall, the data reflects a balance between acceptance of English influence and a desire to preserve the Bosnian language.

A striking 71.5% of participants reported regularly incorporating English words into their conversations, underscoring the profound influence of English in contemporary Bosnian society. This prevalence is consistent with Görlach’s (1994) assertion regarding English as a dominant donor language,

particularly in regions experiencing heightened exposure to global media and cultural exchange. The data reveals that 55.9% of English word users incorporate these terms only sometimes, while 31.3% do so often, suggesting a varied but significant engagement with English that aligns with Crystal's (2003) observation about the normalization of English in informal contexts.

The strong preference for Anglicisms in technology-related discussions is particularly telling. Terms like "čet" and "južernejm," which have no direct Bosnian equivalents, reflect a linguistic adaptation that mirrors global technological trends. As noted by Filipović (2019), the rapid evolution of technology necessitates the adoption of terms that are often English by default, thus facilitating communication within a digital landscape dominated by English. This phenomenon reinforces the idea that linguistic borrowing is not merely a passive acceptance of foreign terms but rather an active adaptation to contemporary needs.

The findings indicate that social context significantly influences the use of Anglicisms. Notably, 42.5% of participants tend to use English words among peers with equal or superior English proficiency, which suggests that language use serves not only as a means of communication but also as a marker of social identity and status. This aligns with Baron's (2008) concept of linguistic accommodation, where speakers adjust their language to align with their audience, reflecting a desire for inclusivity or social belonging.

The concept of linguistic whateverism is palpably present in the data, particularly in the substantial portion of respondents exhibiting indifference towards the choice between Bosnian and English terms. The "whatever" attitude, prevalent in areas related to technology and entertainment, indicates a growing pragmatism in language use, where the primary concern shifts from strict adherence to linguistic norms to effective communication. This mirrors Baron's (2002, 2008) arguments about the casual and relaxed approach to language among younger speakers, who increasingly prioritize ease of expression over linguistic accuracy.

Studies such as those by García & Wei (2014) also explore how young speakers navigate linguistic norms, highlighting a trend towards linguistic flexibility and the blending of languages in informal contexts. García & Wei specifically exam-

ine the phenomenon in a Finnish context, revealing similar attitudes towards English loanwords among youth. They also discuss the implications of such language use in social identity formation, resonating with the findings of this study.

However, the substantial concerns voiced by 67% of participants about the potential erosion of the Bosnian language due to Anglicisms highlight a crucial tension between linguistic innovation and cultural preservation. This concern aligns with Schiffman's (1996) warnings about the dangers of linguistic imperialism, where dominant languages may overshadow and threaten the vitality of minority languages. The mixed feelings among participants—some embracing the integration of English, while others worry about cultural loss—underscore the complexity of language dynamics in a globalized world.

The data reveals a critical need for balance between embracing linguistic evolution and maintaining cultural identity. A significant 53.1% of respondents express the importance of preserving Bosnian words, indicating a robust attachment to their linguistic heritage. This sentiment reflects broader concerns about cultural identity and the role of language as a vessel for community values and traditions, as argued by Hjarvard (2004).

Moreover, the perception that 63.1% of participants believe that some Bosnian words could eventually be replaced by English terms raises essential questions about the future trajectory of the Bosnian language. While 68.7% of those anticipating such changes view them negatively, this anxiety coexists with a recognition that language is inherently dynamic and adaptive. As Haugen (1950) posited, the natural evolution of language through borrowing is both inevitable and necessary for cultural adaptation, but it must be managed carefully to avoid detrimental loss.

Thus, as related to the **RQ2**, a notable proportion of Bosnian high school students reported indifference toward their language choices, demonstrating a "whatever" approach, particularly in areas related to technology and entertainment, indicating a high level of inconsistency in language use. In conclusion, the "whatever" responses highlight a shift toward linguistic pragmatism and flexibility in Bosnia, especially in domains heavily influenced by global culture, technology, and entertainment. While there are still areas—particularly those tied to personal or cultural identity—where respondents show a clear preference for Bosnian terms, the sig-

nificant presence of indifference in other areas suggests that language use is becoming more fluid and less tied to rigid distinctions. This reflects an evolving linguistic landscape where both Bosnian and Anglicisms are seen as valid and interchangeable tools for communication, shaped by context, convenience, and the influence of global English. The growing acceptance of hybrid language use and code-switching suggests that Bosnians are increasingly navigating a bilingual or even multilingual world with ease, adapting their linguistic choices based on the situation rather than a strict adherence to one language over the other.

Conclusion

In conclusion, this study sheds light on the evolving linguistic landscape among Bosnian youth, characterized by a marked prevalence of Anglicisms and a simultaneous commitment to preserving native language integrity. The findings underscore the need for ongoing dialogue about the implications of language mixing in a globalized context, where cultural identity and linguistic heritage face new challenges.

As Bosnian youth navigate this bilingual environment, the acceptance of Anglicisms signals not only a response to external influences but also a reshaping of local identity. Future research should consider longitudinal studies to track changes over time and examine how educational policies and community initiatives might better support the preservation of Bosnian linguistic heritage while acknowledging the realities of a multilingual world.

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BOOK REVIEW

DARK WIRE: THE INCREDIBLE TRUE STORY OF THE LARGEST STING OPERATION EVER

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ABSTRACT

At the end of the 20th and the beginning of the 21st century, there was a significant increase in organized crime, which was contributed to by the advancement of technology and globalization. Organized crime groups have become increasingly sophisticated, using encrypted communications applications like SkyECC and ANOM to avoid detection and prosecution by law enforcement.

"Dark Wire: The Incredible True Story of the Biggest Sting Ever" by Joseph Cox delves deep into the secret world of criminal enterprise and the extraordinary measures law enforcement agencies take to combat this type of crime. Cox explores the convoluted narrative by analyzing its historical context, investigative journalism, and the sting operation's broader implications for law enforcement tactics and civil liberties. The book not only provides a stunning account of one of the largest sting operations in history, but also raises pertinent questions about the ethical and legal ramifications of such covert activities.

Keywords: Organized crime, Globalization, Encrypted Communication Applications, SkyECC, ANOM

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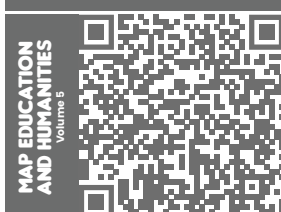
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The book "Dark Wire: The Incredible True Story of the Largest Sting Operation Ever" is the first published book dedicated to sophisticated encrypted applications for communication, which delves deep into the world of criminal enterprises and extraordinary measures taken by law enforcement agencies around the world, with the aim of breaking or deciphering these applications. Well-known investigative journalist Joseph Cox, who is also the owner of the web page Vice, detailed the daring and elaborate operation undertaken by law enforcement agencies around the world to infiltrate and dismantle a sophisticated criminal network. As an investigative journalist, Cox devoted a large part of his career to researching cyber security and fighting crime, in such a way that he followed the work of sellers of sophisticated encrypted communication devices, who promised members of the criminal milieu that they could not be eavesdropped or caught by the police.

At the end of the 20th and the beginning of the 21st century, there was a significant increase in organized crime, which was facilitated by the advancement of technology and globalization. Organized crime groups have become increasingly sophisticated, using encrypted communications applications and the dark web to avoid detection. Cox paid special attention to certain decrypted applications for communication, the way they were created, the expansion among various organized criminal groups on a global level, emphasizing the challenges that law enforcement agencies face when trying to decipher these applications. Law enforcement agencies have had to devise a response to this phenomenon, so they have adopted more aggressive and covert strategies to combat these evolving threats, emphasizing innovative methods used to gather intelligence.

As an investigative journalist, Cox showed amazing courage through the narrative, where several stories from several organized criminal groups and their participants in several countries around the world are interwoven, and which then show the degree of connection and coordination. Cox paid special attention to the main characters of the book, from the members of organized crime groups to the agents who were involved in this sting operation, emphasizing the importance of the sting operation, but ignoring the danger of revealing the identity of the agents who were involved in these narratives from the beginning. All the actors are described vividly, and the conversations, interviews and information that the author collected from them gave authenticity to the said book.

Although some phones and applications functioned in a secret, encrypted way, they were eventually discovered by law enforcement agencies, and in such a way that the founders of the companies that sold these devices with installed encrypted communication applications were first arrested, and who then agreed to cooperate with the prosecution and the police. During the cooperation, they would mostly declare that they sold the mentioned phones to members of the criminal milieu to enable them to communicate easily between members of the group, and that these devices promised the complete impossibility of access by law enforcement agencies to these communications. The sellers of these phones also offered members of the criminal milieu and a promise that if they are still caught by the police or the prosecutor's office, that they have the possibility to delete the contents of the phone (and therefore all communications) in a very simple way. You only need to press the panic button and enter the pre-determined password for this occasion.

The book is structured in such a way that each new chapter reveals a new part of the secret operation, connecting in this way members of organized criminal groups around the world, the way in which they mutually arrange cooperation and deals, but at the same time the author describes the cooperation of law enforcement agencies that strive to discuss the best ways to tackle this problem. For a moment it seems as if it is one of the world's bestsellers that provides a fictional story about undercover police operations, but Cox references his sources throughout the narratives of each chapter, ensuring that the information presented is accurate and credible.

"Dark Wire" explains the intricate activities of a sting operation carried out in cooperation with several law enforcement agencies, where the different phases of the operation are explained through different chapters, from the initial planning and intelligence gathering to the execution and final elimination of organized criminal groups. The use of sophisticated decrypted communication applications is a key factor, which has been an excellent technique for gathering evidence against these groups on a global scale. Cox was also involved in researching the psychological tactics that agents used to gain the trust of criminals and thus obtain current information, describing the ethical dilemmas that agents faced during the operation.

Although Cox expresses his admiration for the topic throughout the narrative, he also considers the ethical issues of using the applications, wondering whether members of law enforcement agencies may have exceeded the limits of their jurisdiction and authority in these operations, and what implications this has for privacy and civil liberties. The use of special investigative actions, special techniques and tactics, which include the use of such applications, implies an examination of the legal frameworks that regulate the aforementioned areas, which Cox focuses on, and which encourages readers to think critically about security and privacy in the digital age.

“Dark Wire: The Incredible True Story of the Largest Sting Operation Ever” is a kind of detailed report on an extraordinary operation conducted by law enforcement agencies on a global level in the fight against organized crime. The book consists of 4 parts, where each part has a certain number of chapters that provide detailed and interesting narratives on two sides, organized criminal groups, but also on the side of law enforcement agencies.

In the first chapter, the development of organized crime at the end of the 20th and the beginning of the 21st century is shown, as well as the development and expansion of the company Phantom Secure, based in Vancouver, Canada, who was the first to design ultra-secure phones for the needs of clients. Those phones had special features such as erasing the contents of the phone remotely in emergency situations, if the phone fell into the wrong hands or if it was confiscated by law enforcement. This model was interesting because it was sold only to members of the criminal milieu, and through the analysis of the case of a fellow dealer who distributed cocaine in the US and Australia, the way in which he and other members of organized criminal groups obtained encrypted communication devices was described. These phones gained popularity in 2014 when the media in Australia reported that Phantom Secure phones were linked to certain murders but that the police could not access the contents of the phones to read the messages. In 2018, the director of Phantom Secure was arrested and convicted of conspiracy to extort for knowingly selling these phones to members of the criminal underworld. “The phones landed everywhere crime syndicates could be found, from cocaine production labs to drug safe houses. The users were corrupt police and government officials, hitmen for hire, and artisanal drug smugglers”, said Cox.

Already in the second chapter, Cox includes in the story individuals who worked on the side of the

law to implement this operation, from prosecutors in the US Attorney’s Office for the Southern District of California and FBI agents, who were already familiar with Phantom Secure Phones.

Given that organized criminal groups in the US and Australia have already largely used these phones, it has already become clear for law enforcement in Australia and the FBI office in San Diego that they must join forces and work together on this problem to gather evidence against these groups. They held a meeting in 2016 attended by members of the Australian Federal Police (AFP) and San Diego team, prosecutors and FBI agents with discussion how to move together as one against Phantom Secure. Cox described the details of the meeting in Chapters V and VI, describing the dilemmas that law enforcement members faced during that period.

Given that the director of Phantom Secure had already been arrested, the distributors of this phone were wondering what to do next and how to avoid the FBI. One of the distributors, who was very technically educated, decided to offer the FBI to establish his own company that would sell encrypted phones, and in exchange for help, his fine would be reduced. Thus, ANOM was born and Cox begins Act II of the book.

The Anom application could not be found and downloaded on the Google Play Store like most other applications, but the ANOM company “loaded the app onto phones itself and then sold these phones to corporations that wanted to keep their internal communications secure.” Due to the demand of its clients, ANOM had to have a solution for archiving messages, which it used.

After the first distributor of ANOM phones was found in the field, he did not focus on corporations, but sold these phones to people from the criminal milieu, from the Italian mafia to drug dealers in Australia. In chapter eleven, Cox described in detail the characteristics of ANOM phones and how they were a better version than Phantom Secure, which additionally confirmed that Cox had extremely good sources that guaranteed him the authenticity of the entire story. Other encrypted phones did not have a camera and microphone, which was not the case with ANA.

Throughout the entire narrative, the ethical dilemmas that law enforcement agencies face during the entire operation and the way they were resolved are emphasized. One of the problems that arose for law enforcement was that certain countries such as Australia were not legally able to

share data collected in this way with other countries, and the solution was to find a European partner who could do it for them. Thus, was born an operation the FBI called Trojan Shield, which Cox described as an “investor in the criminal underworlds latest startup.”

Act III in his book Cox begins with a separate encrypted phone company, Encrochat, which had some of its servers in France, but the French police were able to retrieve these messages in the update process, several times, even after the company realized what happened. After that, the company closed Encrochat and sent a message to its customers that the phones are no longer safe for communication.

In the following chapter, Cox also described the Ironside operation, which was carried out by the AFP in Australia using data from ANOM, to confront the Calabrian Mafia. In one of the chapters, he also focuses on Dubai, which he defines as a paradise for people from the criminal milieu, who want to avoid persecution by law enforcement agencies, stating that in Dubai protection can be provided very easily because it is only necessary to have money, and Another reason why Dubai is a “paradise for criminals” is that there is no extradition.

The fourth part of the book represents the sublimation of all activities related to sophisticated encrypted applications for communication and is perhaps the simplest for readers, considering that the previous parts “jump” from topic to topic, which is difficult for readers who do not know the subject to understand at first reading.

Chapter 26 describes the events in February 2021, when police agencies decided to disclose that they had access to SkyECC, and thus began mass arrests in many European countries, primarily the Netherlands and Belgium, after which the users of the application began to send messages to each other: “Sky is down.” Cox believed that only a few knew that the hack of Sky was part of the much grander master plan to force criminals over to ANOM. The operation wasn’t so much about arrests that day. It was might happen next, said Cox, leading readers to see the operations as a certain conspiracy theory. After the arrest, US authorities confiscated Skys web domains, and the owner was indicted for providing Encrypted Communication Devices to help international drug traffickers avoid law enforcement. The earthquake of Sky’s closure created a tsunami and tidal wave of users who needed a new encrypted phone headed straight in ANOM’s direction. That’s how the expansion of the ANOM application began, but also the story

that it is one of the most secure applications for communication.

It described the hectic work that the FBI team in San Diego was doing every day, as well as the EUROPOL team, trying to cope with the ever-increasing flow of intelligence that came in every day, and preparing for the arrests of almost 800 people around the world. Agencies around the world built cases based on this information, but as good as this information was, it was still insufficient to serve as evidence and guarantee a conviction at trial. Now it was time for ANOM, which was mainly an intelligence weapon, to change into an evidence-gathering tool, one that could be used to prosecute those drug traffickers in court. Investigators combined these messages with special investigative actions, physical surveillance, data from social networks, trying to identify ANOM users and to create a rich picture of exactly what crimes they committed, and to provide evidence for it.

Just as organized criminal networks now operated without borders, the officers inside EUROPOL did the same. They instantaneously collaborated, their own borders practically meaningless, concluded Cox.

In the book’s epilogue, Cox described how the FBI and a member of Europol traveled to other countries and made available to law enforcement agencies information from the ANOM application that related to their area, which included Bosnia and Herzegovina, Serbia and Montenegro.

“Dark Wire: The Incredible True Story of the Largest Sting Operation Ever”, by Joseph Cox, is a fascinating story about the emergence and use of sophisticated encrypted applications for communication that leaves every reader breathless, providing an insight into the detailed description of them, and the way they are used by organized criminal groups but also by law enforcement agencies on a global level.

The book emphasizes the role of technological innovations in the digital age in law enforcement, where the use of cutting-edge technology has made it easier for organized crime groups to commit crimes, but it is precisely this modern technology that has enabled law enforcement agencies to come up with creative investigative techniques thanks to which impressive operations are carried out in the fight against organized crime, such as the operations featured in “Dark Wire.”