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The list of reviewers of the papers included in this volume is included at its penultimate page.
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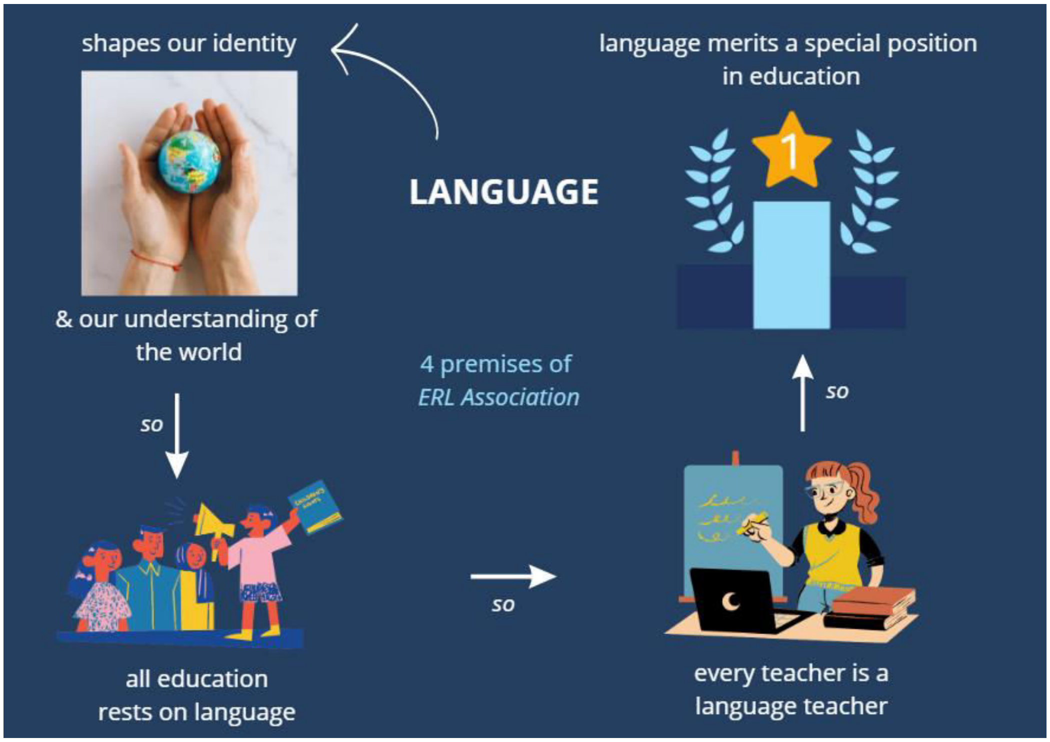
Educational Role of Language – 4 Fundamental Premises



http://educationalroleoflanguage.org/home/boosting-the-position-of-language-in-education/

Introduction by Editor-in-Chief

Exploring the – underrated – educational role of language in interdisciplinary avenues

As the graphic representing ERLA's fundamental premises shows, **language is scattered all over education, with the impact of language starting at the lowest (deepest) level of our understanding or the world, which justifies linguistic education being put at the very top of learning-oriented human activity**. And yet – despite the extensive contemporary knowledge on the subject – most paradoxically, surprisingly, and detrimentally, language still passes largely unnoticed in different educational systems across the globe. Although all teachers apply language when, first, mastering their disciplines and, later, teaching and discussing issues with their students, they tend to take language and its educational role for granted to such an extent that all terminology is seen as "belonging to" their fields of expertise rather than have a predominantly linguistic "origin" and be governed by phenomena characteristic of language. As a result, language, be it first or native, second or foreign, retains the status of – just – one of many school subjects. Even language teachers, whom we would expect to appreciate the central and omnipresent position of language, have proved to relate the term "educational role of language" essentially with its global communicative function and the importance of knowing languages for reasons pertaining to travelling, working, or making friends in different countries of the world. In ERLA we, quite obviously, do not question these purposes and gains, but see them as secondary to what language truly means throughout our life and overall development.

At the level of an individual student, the fundamental role of language can be recognised in four dimensions – a student's beliefs, actions, affect, and cognition. Hence, in ERLA we have been trying to address four respective questions – What do we think of language?, What can we do with language?, How do we feel about language?, and How do we understand the world through language? We see the link between language and the four components named as bilateral (which is partially not reflected by these questions as language is, grammatically speaking, their object rather than the subject), with the two directions of impact being complementary to each other. In other words, how, for example, we feel about language is viewed in the ERL framework as complementary to what role language plays in how we feel. This examples relates to students' affect, which is ERLA's yearly focus in 2023 and which these days is gaining scientific importance owing to how feelings and emotions determine our overall functioning. Therefore, we can say that in 2023 ERLA is becoming more emotional, which is a partially jocular and partially serious statement about where we are now after ERLA's first (2019-2022) cycle. Similarly to the systematically diminished role of language in education, the affective side of learning and teaching seems to be underestimated, too. Putting these two underrated aspects together, we can infer that **the extent to which the affective side of language learning and use remains neglected is comparable to the degree in which it should be prioritised – not only in the teaching of languages, but in general education altogether, so that students can learn how their emotions and feelings matter in how their (spoken and written) language operates**. These aspects (partially analogically to axiological ones) remain more "hidden" than psychomotor (actions) and cognitive ones, which by no means justifies them being neglected but, quite on the contrary, calls for a far more attentive and inquisitive approach to them.

Basing on thus understood fundamental role of language and the four language-elevating premises mentioned in the first paragraph, in ERLA we have been re-discovering language in education, although many would probably say that its position is so clear that there is nothing to be discovered. Underestimating its role and the degree in which it affects educational (and professional) success altogether is so commonplace that even university professors working in the world of language itself fail to comprehend the linguistic conditioning of learning and teaching processes. On the most general level we can distinguish **two categories of education-related fields where such a re-discovery appears essential**, **first, those in which language as a component is explicitly present and in which the examination of its role consists mostly in studying the link between language and another discipline; and, second, those, in which language remains unnamed (implicit) in the wording of disciplines, which adds to the said unveiling of language in it another source of difficulty and methodological complications**. We open ERL Journal's sequence of special issues with an area representing the former case, which already involves an intersection of disciplines, but of a lower degree. The issue of interdisciplinarity comes to the fore in all publications and initiatives undertaken under the ERL framework, which is a direct consequence of the simple reasoning: if we set ourselves the task of constructing such educational systems that (a) squarely and sufficiently observe the basic facts concerning the position of language in education, and (b) take into account the interplay between language and students' beliefs, actions, affect, and thinking, the fulfilment of such a far- and widely-reaching aspiration implies by definition engagement of specialists of different fields.

This special issue, which is our first extra "venue' on ERL Journal's overall trajectory of regular volumes, undertakes the issue of the educational role of language in the field of language for special purposes (LSP). By encompassing three sections on science, translanguaging, and language skills in LSP contexts, the volume constitutes **a solid representation of the range of problems lying on the intersection of language and professional facets**. Throughout the volume we observe the exemplification of the rationale outlined by the graphic with ERLA premises, that is language "driving" vocational development and learning, teachers engaged in technical education becoming language instructors, and, consequently, the linguistic component being emphasised and elevated. What adds to the attractiveness of the volume co-edited by our Guest Editors is that the papers and reviews relate to the cross-cultural dimension, too, thus highlighting the communicative and linguistic themes even more strongly and systematically. Additionally, exploring how language matters and operates in the field of LSP provides ERL Journal with a valuable practical component – which is clearly a benefit stemming from our Guest Editors' linguistic and technical expertise. We, as the journal's entire editorial board, are grateful to them for proposing and undertaking the challenge of compiling a volume representing their interdisciplinary field. As a result of this cooperation, we have developed a special issue which – on top of all the merits already named – upholds the sense of ERL Journal and the ERL framework altogether: since their inception they have been intended to explore avenues where language “meets” various forms, modes, and varieties of education, our Guest Editors and the authors’ joint work constitutes a highly valuable and representative contribution as well. We welcome other proposals of ERL Journals’ special issues so that other similar “meetings” and their (educational and professional) implications can be examined, too. It is our sincere belief that it is only thanks to widely interdisciplinary and international cooperation that the educational role of language can be convincingly, credibly and adequately studied.

Michał Daszkiewicz

Introduction by Guest Volume Editors

With rapid advancements in globalization and digitalization, various aspects of human life have changed significantly, posing new challenges to the study of LSP and its role in cross-cultural communication. On the one hand, digital fluency has levelled the playing field by bridging cultural gaps and promoting communicative approaches in diverse settings. On the other hand, introducing multicultural elements into the LSP classroom has required professionals to acquire specialized skills in identifying and transcending cultural contexts to ensure effective instruction of LSP.

Science and scientific achievements play a vital role in facilitating cross-cultural communication within the LSP context. With modern teaching aids, such as interactive learning platforms and didactic applications, it is possible to create interactive and engaging learning environments. Technology-driven feedback also offers valuable opportunities for teachers to digitally enhance students' language proficiency.

A crucial component of attaining expertise in LSP revolves around the comprehension and effective utilization of specific vocabulary and terminology associated with particular professional domains. The acquisition and appropriate application of domain-specific words and word combinations are foundational for facilitating effective oral and written communication within a foreign language context. The pedagogical instruction of terminology in LSP education should not solely prioritize lexical accuracy but should also encompass considerations regarding its suitable presentation. For instance, when communicating technical knowledge within contemporary technical disciplines through the use of LSP dictionaries, adjustments are often required to accommodate foreign terminology and ensure effective cross-cultural understanding. By equipping students with the necessary terminologies and word combinations, educators can empower them to navigate professional discourse in foreign languages, promoting effective communication and cultural understanding.

Beyond the realm of specialized vocabulary, LSP classrooms have to adopt a comprehensive approach that encompasses developing students' language skills to facilitate successful cross-cultural communication. Proficiency in delivering presentations constitutes a fundamental element of students' oral competence. By actively participating in LSP classroom presentations, where students share topics of common interest with their peers, they have a valuable opportunity to immerse themselves in the discourse practices prevalent in their future professional communities. These experiences effectively equip them to become proficient contributors within their respective discourse communities. Furthermore, developing reading skills is crucial for students' academic success and expanding their general knowledge and cultural understanding.

The special issue will delve into effective strategies for addressing and enhancing students' language skills in LSP contexts. By examining the role of scientific achievements, the teaching of domain-specific vocabulary, and the development of language skills, it aims to shed light on innovative practices and approaches that facilitate effective cross-cultural communication in LSP contexts. By exploring the intersections of science, translanguaging, and language skills within the LSP context, this collection of articles aims to provide valuable insights and innovative approaches for educators, researchers, and practitioners. Overall, this special issue invites readers to engage with the latest research and innovative practices in the field of LSP education, with a particular focus on cross-cultural communication. It is our hope that the contributions within this issue will inspire and empower educators to navigate the challenges and seize the opportunities presented by the globalized and digitalized world, ultimately enhancing the effectiveness of LSP education in serving cross-cultural communication needs.

Vesna Bogdanović & Dragana Gak

Powtoon as a contemporary formative assessment tool in teaching LSP to students of forensic science

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Abstract
Modern teaching aids are always welcome when teaching LSP at the university. One of those aids are didactic apps or platforms that enable students' creativity to come to the fore. Powtoon, a free animation studio platform, has already shown positive reactions from students worldwide, according to recent studies (Pais et al. 2017, Yuliani et al. 2021, and Ramachandiran & Mahmud 2019). Its tendency to replace traditional formative assessment methods is more and more noticeable. For our research and our analysis, we have chosen two generations of students studying at the University of Criminal Investigation and Police Studies in Serbia, Department for Forensic Engineering. These were two study groups of students who during their course Engleski jezik 2, and as part of their continuous, formative assessment, were asked to present a topic related to forensic science using all the multimedia resources at their disposal Powtoon has to offer. The outcome was creative and eye-catching projects. Subsequently, students were asked to complete an anonymous Likert scale survey on their experience using the platform. 12 university students agreed to take part. The aim was to test how practical and efficient using this platform is in LSP education, i.e. improving language skills, as well as how it fosters positive motivation in learning how to use new media content. The results are that students generally find the platform useful for improving their language skills. There are mixed views on the user-friendliness the app offers and the media content available. Further comparative research is needed to determine, for example, how students from other departments of the University could use the same study model when drafting their multimedia assignment related to their professional field.

Keywords*: Powtoon, teaching LSP, formative assessment, forensic science*

Introduction

Teaching language for specific purposes (LSP) as opposed to teaching it for general purposes (GP) has always been a challenge for many language instructors. To the untrained eye and ear, it may seem no big difference as both concepts imply teaching a foreign language. We could say that the biggest difference is that when teaching a foreign language for GP the focus should be on "ordinary" and "everyday use" of the language whereas teaching LSP should focus on "specialized occupational area" of the language use. ESP (English for Specific Purposes) courses seem to be "tailor-made" and imply that the learner has already mastered the basics of the language prior to starting to study an LSP, in this case – English. There are many ways to assess students' knowledge of ESP. Some instances include formative assessment, that is, continual assessment throughout the duration of a university course. One instance of formative assessment could be grading students' oral skills, for example, by allowing them prepare an oral presentation on a particular professional topic. This could be extended to multimedia presentations meant to stimulate students' creativity, employ their writing and speaking skills, learn something new by discovering, and finally make use of the multimedia content in contemporary foreign language classes. Such an attempt has been made on a small sample of university students studying forensic science at the University of Criminal Investigation and Police Studies. Namely, as part of their formative assessment they were asked to draft a multimedia presentation on a topic they chose from their professional field by using cloud software platform Powtoon. Afterwards, an analysis was compiled and conducted based on the students' answers to the Powtoon related statements. Our aim was to determine how much Powtoon is a justified learning tool in improving ESP skills, as well as to test its practical use in learning new multimedia related skills, and to see whether there is positive motivations present among its users, in this case university students.

Theoretical background

Overview of LSP as a foreign language course in Serbia

As we have already said, LSP courses imply "tailor-made" curriculum and that the learner has already mastered the basics of the language prior to starting to study an LSP (in our case – English). In Serbia, ESP (English for Specific Purpose) courses suggest teaching English at a higher level of education, especially at Master's and doctoral studies. However, vocational school of secondary education, especially in the Serbian high school teaching system, may also imply an LSP course (e.g. students of tourism, medical students etc.) (Janković 2011: 71-73). The practical use of LSP/ESP courses varies according to the contexts, e.g. applying for a foreign scholarship and filling out the necessary forms, using a foreign language for travelling purposes, understanding how a piece of software works, communicating with colleagues and peers from abroad, or, more specifically, perform border checks at the airports, cooperate with relevant law-enforcement agencies etc. Needless to say, all these contexts suggest going beyond the use of general, "ordinary" English, but rather a more advanced level with specific vocabulary, even some formulaic expression, that are going to be used in these situations (Janković 2011: 71-73, Mićović & Stojov 2011: 418, Đorović 2011: 752ff). This in turn poses a challenge for an ESP teacher. As opposed to GPE (general purpose English) where a teacher need not necessarily be involved in the creation of the course syllabus, in ESP courses, more than often a teacher has to be immersed into particularities involved in a certain profession. For example, in Serbia, if an ESP teacher teaches future police officers, he or she should be familiar with police or forensic science, criminal justice, organizational structure in policing and security agency, as well as to know the differences between the Anglo-Saxon legal system, as opposed to the home legal system, and so on. (Mićović & Stojov 2011: 418) This is why "the role of an ESP teacher is manifold". He or she is often course designer and content creator and "deals with sciences disciplines he or she was not educated for" (Mićović & Stojov 2011: 419).

Formative assessment

There are several patterns of grading a student's progress when teaching an LSP. The Bologna Declaration provides the option of continuous assessment. This gives a student the possibility to bring productive initiatives. Such initiatives are oral/multimedia presentations. These in turn can be graded as formative assessment. As we have already said, this implies doing an assignment as part of the final grade, i.e, it is the part of the pre-exam requirements. These activities may take the form of an oral presentation which is usually graded. Other options include midterm exams, short vocabulary or grammar tests, etc. These are all usually graded, but can also be realized in a form of a voluntary exercise so that a student can get feedback on their progress (an essay paper, poster, a writing assignment, an online quiz, short discussion and so on) (Polovina & Dinić 2014: 411, Ramachandiran & Mahmud 2019: 294). According to Ramachandiran & Mahmud the point of formative assessment is to give students "progressing criticism" to help students learn better, pinpoint students' weaknesses during the semester and address their problems timely. The focus is on providing students with the feedback on their progress (Ramachandiran & Mahmud 2019: 293-294, based on Keeley 2015; Moss & Brookhart 2019, Dixson & Worrell 2016). Below is a summarizing table of the characteristics of formative assessment as well as some practical examples in the classroom.

Table 1. Characteristics of formative assessment

Purpose	To improve teaching and learning; to diagnose student difficulties
Formality	Usually informal
Timing of administration	Ongoing, before and during instruction
Developers	Classroom teachers to test publishers
Level of stakes	Low-stakes
Psychometric rigor	Low to high
Types of questions asked	What is working? What needs to be improved?
Examples	How can it be improved? Observations Homework Question and answer sessions Self-evaluation Reflections and performance Curriculum-base measures

(Dixson & Worrell 2016: 154)

As we can see, the main purpose of formative assessment is to determine what difficulties a student has in the learning process during the course and provide them with feedback. According to Dixson & Worrell the degree of "formality" implies the way in which a test activity is graded. Formal means more specific, standardized grading scheme (such as tests, quizzes etc.); informal means less specific non-standardized testing for diagnostic purpose, and to get an immediate response, feedback of the students' progress or problem areas (such as oral presentations, etc.). Timing of administration refers to the moment the assessment takes place (after the lectures as part of the final exam, or during the course of a semester). Developers are the teachers, that is, the people who create formative assessment per sé. Low stake implies the test results may not influence the grade to such an extent, for example, as to make a student fail the class. Psychometric rigor implies the level of complexity of formative assessment. It is meant to check students' knowledge quickly (for example, quizzing students whether they have understood the lesson topic) or it implies more complex assignments to be solved by students and later on graded by the teacher. Questions such as *What is working?* and *What needs to be improved?* serve their diagnostic purpose, i.e. to pinpoint the problem areas and "troubleshoot" them when using formative assessment tools. (Dixson & Worrell 2016).

Modern formative assessment tools

In an ESP course, there are many ways for a teacher to test students' oral presentation skills, as part of their formative assessment. Before the age of computers, teachers would ask students to choose a topic and deliver the presentation in front of the class in a foreign language. Students were also encouraged to bring to the class any presentation related object, or a visual example of what they were talking about in order to make the presentation visually more attractive (the show-and tell principle)[1]. With the age of multimedia devices and computers becoming more easily accessible in class, students

[1] Students of the University of Criminal Investigation and Police Studies were also encouraged to do so, but only a small number of them did this. The only case of a presentation where there was visual aid was a student's presentation on a police officer's uniform, which they wore on the day of their presentation along with the equipment (badge, dummy fire arms, baton etc.)

were asked to make their presentation even more visually pleasing by using Power Point Presentation tool (or Prezi). Students at the University of Criminal Investigation and Police Studies were also asked to do so. Reluctant at first, and preferring to do it “traditionally” by holding a piece of paper in front of them to check all the details were memorized properly, the number slowly grew and with later generations almost all of the students did this, making Power Point Presentation a necessary element of a presentation. Failing to do so would not make the student fail this activity automatically, but could significantly lower their overall score.

In the meantime, multimedia technologies (e-learning, Moodle, etc.) have attracted a lot of attention, due to their ability to contribute to the teaching process (Nikolić & Vidić 2011: 478ff, Vasev et al. 2014: 556). Namely, with multimedia technologies all the students’ senses area activated in order to gather information, acquire knowledge and upgrade their know-how. Multimedia, as a form of integration of text, two- or three- dimensional graphic, photography, sound or animation has become an integral part in education. Its core purpose is to connect and integrate different language skills and competencies in order to solve communication-based tasks (Krželj 2014: 283, Smiljanić-Japundža 2007: 8). Krželj further argues that with multimedia presentations all four language skills are integrated “resulting into a speech act with clear communication function” (Krželj 2014: 284). By using the multimedia content a student displays their know-how in using a language for communication purposes and that they are using it to solve difficult communication skills’ tasks. Different stages of preparation of the presentation imply different language skills coming to the fore. First there is reading competition. Namely, a student reads through many written documents, authentic materials, both online and from printed books, manuals, etc. Then comes the compilation of what has been gathered, read and processed. This implies employing writing skills. Afterwards, a student prepares additional audio-visual material such as graphs, various topic related figures, photographs, etc. This implies both writing skills but also knowing how to use and manage other media. Next comes practising, “rehearsing” for the oral delivery of the presentation (the monologue speech skill), practical presentation of the multimedia project (again the media competencies skill), and finally the question and answer round with fellow peers (the dialogue speech skill). According to Krželj, this is what makes multimedia presentation desirable in a foreign language class, because it “enables active use of the language in an authentic communicative situation” (Krželj 2014: 284). Also, it stimulates independence in work, because a student starts drafting their presentation from zero with no ready-made template beforehand (Krželj 2014: 286).

With the new generation of students coming to the University of Criminal Investigation and Police Studies becoming more and more computer savvy and almost all of them having smart phones, students were asked to use a modern multimedia platform and design a presentation based on their choice having to do with their professional field of interest. This was a part of their course as a form of formative assessment. In the following parts of the paper there will be more discussion on the platform itself and the results of survey obtained from the students in terms of how they perceived the multimedia platform as a tool for drafting their assignments.

Powtoon as a contemporary formative assessment tool

The interactive platform we have chosen to analyse in our paper is Powtoon[2]. It is cloud software meant for the creation of two-dimensional cartoons, somewhat resembling the use of Power Point Presentation or Prezi software. The difference is that the focus on Powtoon is to create time limited slide animations along with inserting audio files, for example, to provide voices for the characters in the film. Also, many more media content is available both as integrated parts (premade character

[2] Etymology: a blend of PowerPoint and Cartoon (Wikipedia)

animations, settings and scenery templates etc.) but also to be imported from a computer as separate files. Afterwards, the file can be exported via link to be played separately. At the moment this paper and study were conducted the maximum length of the video is three minutes, and no video file download option was available. All of the above is offered in the free version of the software, meant to be used by anyone after registering and creating a user account.

Multimedia presentations made with Powtoon are meant to grab the audience's attention fast and deliver a specific piece of information as the creator intended. Below is a list of some of Powtoon's advantages in teaching:

- Any topic of interest can be presented and shared with the audience;
- If well designed, the presentation can be eye-catching and grab people's attention;
- Students learn to read, process and compile information to be later used in their presentation (learning by doing);
- The information presented in a creative way is easier to remember;
- Students' integration abilities improve by operating with different types of media formats ("visual, auditory and motion resources"), i.e. the media competencies skill improves;
- General compatibility of the media resources with several computer operating systems.
- At the moment this paper was conducted, the basic version of the software was free of charge. (Pais et al. 2017: 123)

Powtoon could be observed as gamification, a modern learning method, which suggests using video game designing skills. Employing gaming mechanisms implies "altering the content to make it more game-like", for example, by "overlaying the content with storyline and characters, or incorporating music, sound, or graphics" (Boskic & Hu 2015: 741). Powtoon, as an online education medium has one more practical advantage. Namely, in the era of pandemic illnesses when live lectures at the university can stop at any time, it is important to rely on an alternative method of grading students. Such is the case with this cloud software. Namely, students do not need to be present in the classroom as the presentation could be done as homework. Next, there is no need to be physically present when delivering the presentation (as is the case with PowerPoint Presentations when a student presents their work in front of the whole class), as everything is already made online and dispatched in a form of a link. Therefore, a teacher can grade the students' work from home and also notify them of their assignment grade via email, etc. Lastly, some local studies have shown that the number of digitally literate youth has been on an ever-growing increase, both in terms of having a computer and using it actively, thereby making Powtoon practically useable, too, in contemporary teaching[3].

Bearing in mind the positive aspects of Powtoon, as well as its affirmative educational role in recent studies (Ramachandiran & Mahmud 2019: 296, Buchori & Cintang 2018: 222) our research aim was to test this on a small sample of students and see how much Powtoon's efficacy in mastering ESP skills is justified, how practical it is in mastering media content skills, as well as how much it nurtures positive motivations in improving ESP language skills.

Methodology

The case study sample was conducted on two small groups of students studying at the Forensic Science department at the University of Criminal Investigation and Police Studies during the academic years of 2020/2021 and 2021/2022[4]. Both of the study groups consisted of up to 10 students. A total of

[3] The results refer to bigger urban and suburban areas in Serbia. (Ninamedia Research 2018: 142ff).

[4] As a rule, forensic science study groups at the University do not count more than 10 students altogether. Since Powtoon had not been previously introduced to students as a form of assignment, we thought testing it with a

12 students did the multimedia presentation and accepted to take part in the follow-up survey about their experience using Powtoon software during the course of the summer semester when study groups follow English Language 2 course (Engleski jezik 2).

As part of their pre-exam, formative assessment, students were asked to do a multimedia presentation using Powtoon on a topic related to their field of study, forensic studies, no longer than three minutes in length. No group work was allowed. Participating in the activity was not obligatory, but not taking part would lower a student's overall exam score (15 point out of 100 possible). A specific amount of points was allotted for each part of this activity: a) using audio-video media (voice acting, narration, back ground music, video links, etc.) a total of five points; b) closing credits (animation, sources of the media used, date of production, etc.) a total of five points; creativity in the presentation (the overall effort put into the creation), a total of five points. Overall, students from both generations put a lot of effort in compiling their presentations and even assisted their fellow peers by helping them with voice acting. The results were really creative and one could tell there had been quite a lot of research done prior to compiling all the presentation elements. We will try to focus on the analysis of the results of our case study, as limited by the two scientific field observed here, namely linguistics and foreign language teaching, and IT studies. Our research was conducted to obtain students' opinions of their overall impression of the Powtoon platform. 12 took part in answering an anonymous survey (Google Form) consisting of a series of 10 multiple choice statements based on Likert scale system:

1. I fully agree with the statement;
2. I partially agree with the statement;
3. I neither agree nor disagree with the statement;
4. I partially disagree with the statement;
5. I fully disagree with the statement.

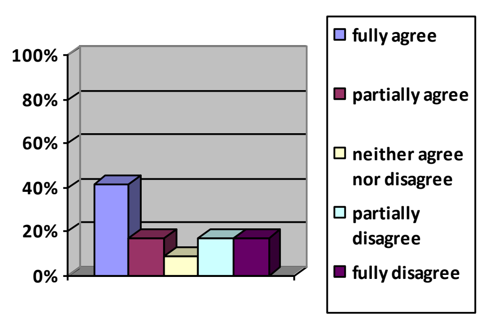
Table 2. Demographic statistics

Gender:	female (100%)
Age group:	between 19 and 21 years
University study group:	Forensic Science
Nationality:	Serbian

All of the statements were closed ended except the last one, where students were given the opportunity to say something in writing related to their Powtoon experience. Afterwards, the students' answers were analysed according to quantitative method, which we will present statistically as follows.

Statements and results

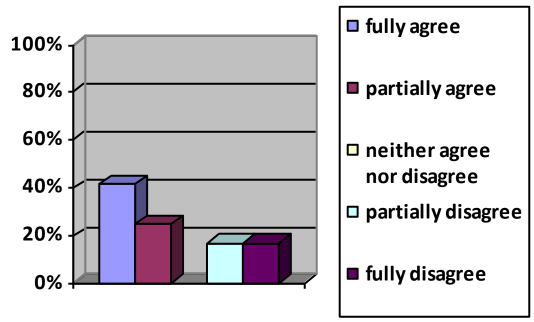
Figure 1. Results for statement No. 1 *Working in Powtoon was easy and user-friendly.*



smaller group of students would enable easier monitoring of their progress and potential dilemmas they could have when drafting their assignments. Monitoring larger groups of University students from other departments could be a follow-up study for some future scientific paper.

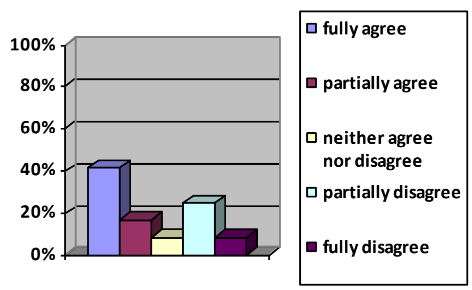
According to the statistics, more that 40% of students found working with Powtoon user-friendly (fully agree). Nearly 17% partially agrees with this. Nearly 17% of students partially disagree and as much fully disagrees with this. We can say that more than half of the students did not have bigger problems using the Powtoon platform[5].

Figure 2. Results for statement No. 2 *Working in Powtoon helped me improve my speaking and pronunciation skills.*



Again, according to the statistic more that 40% of students thought that working with Powtoon helped them improve their speaking and pronunciation skills (fully agree). 25% of students partially agrees with this. Nearly 17% of students partially disagrees and as much fully disagrees with this. We can say that more than half of the students found Powtoon rather useful for the improvement of their language skills.

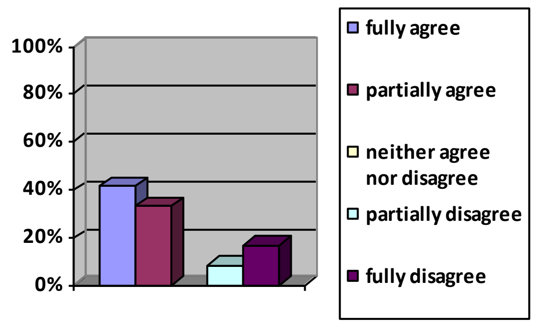
Figure 3. Results for statement No. 3 *Working in Powtoon helped me improve my writing and composition skills.*



[5] One of the reasons why only about a half of students did not have issues is because of the program compatibility with other software. Namely, some of the students complained during the course of them drafting the assignment that the presentation could not be played successfully on some other computer/mobile devices. For example, some multimedia content was not visible in the final version of their presentation. This caused a problem both for students and for their teacher to grade their assignment adequately. All of the above mentioned refers to the students' experience with using the Powtoon free version. Pais also mentions some of the problem areas his students noticed when using the free version, such as the insufficient amount of time to deliver the presentation (no more than three minutes), the English interface excluding other foreign languages, the media content limitation etc. (Pais et al. 2017: 129). Also, with platforms such as the one we are presenting, a teacher usually cannot have an insight into whether the students did the presentations themselves or had someone do this for them, as there is no monitoring option available (unless the students do them only during the class).

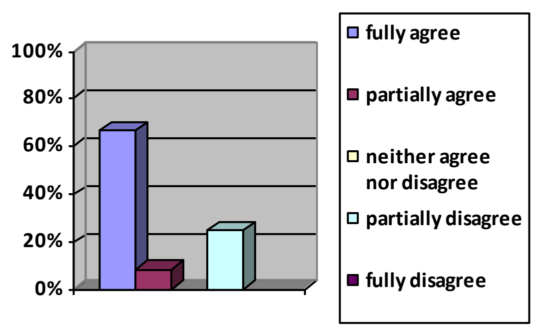
The statistics show one more time that 40% of students thought that working with Powtoon helped them improve their writing skills (fully agree). More than 16% of students partially agrees with this. A small percent of students (8.3%) neither agrees nor disagrees with this. 25% partially disagrees with the statement above and a small percent of students (8.3%) fully disagrees with this. What we can conclude based on the data above that slightly above half of students found Powtoon rather useful for the improvement of their writing skills.

Figure 4. Results for statement No. 4 *Working in Powtoon helped me apply what I have learnt in Engleski jezik 1 and 2 university course.*



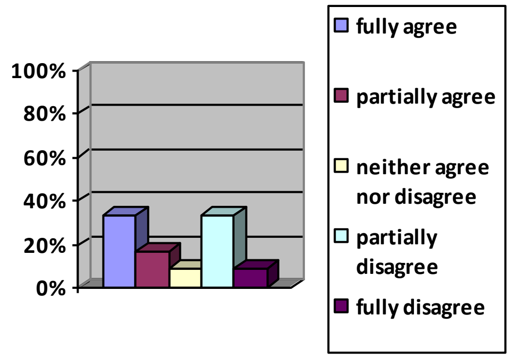
The statistics show one more time that 40% of students thought that working with Powtoon helped them improve what they have learnt in their lessons (fully agree). More than 30% of students partially agrees with this. A small percent of 8.3% of students partially disagrees with this and nearly 17% fully disagrees with this. Based on the figures, we can conclude that a great deal of students found Powtoon rather useful to practically apply what they have learnt during their course English language 1 and 2 respectively (Engleski jezik 1, Engleski jezik 2).

Figure 5. Results for statement No. 5 *Working in Powtoon let me express my creativity.*



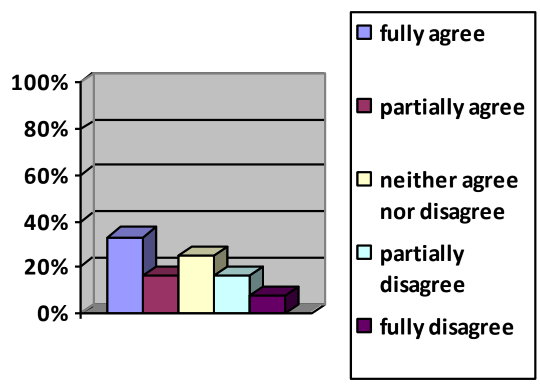
Statistically more than half of the students, 66.7%, found that Powtoon helped them express their creativity (fully agree). A small percent of 8.3% of students partially agrees with this and 25% of the students who completed the survey partially disagrees with this. According to their answers and the statistics, we can conclude that a great deal of students found Powtoon useful to express themselves creatively.

Figure 6. Results for statement No. 6 *The media content offered in Powtoon generally satisfied my creative needs.*



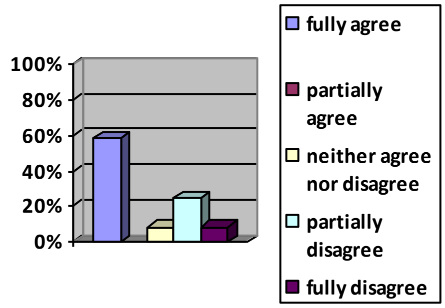
According to the statistics, only 33% of students fully agrees that Powtoon media content could generally satisfy their creative needs. 16.7% of students partially agrees with this. A small percent of students neither agrees nor disagrees and fully disagrees with this (8.3% each). More than 30% partially disagrees with this statement. Based on the figures, we can conclude that half of the students believe that Powtoon can mostly satisfy their creative needs (50% fully agree + partially agree) and the other 50% does not think so (50% neither agree nor disagree + partially/fully disagree).

Figure 7. Results for statement No. 7 *The media content available at Powtoon (e.g. ready-made animations, background settings, templates, audio files, etc.) enabled me to successfully present my topic from forensic science.*



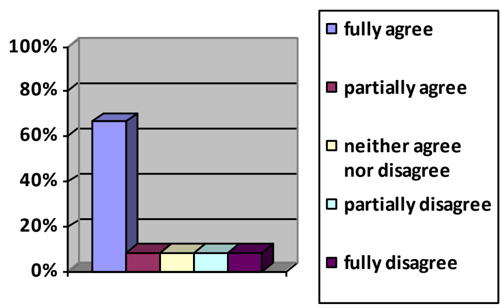
Statistics show that only 33% of students fully agrees that the media content in helped them successfully draft their multimedia presentation from forensic science. 16.7% of students partially agrees with this. 25% of students neither agrees nor disagrees with this, and about 16% partially disagrees with this. Based on the figures, we can conclude again that half of the students think that the media content found in Powtoon was helpful to draft their topic of presentation (50% fully agree + partially agree) and the other 50% does not think so (50% neither agree nor disagree + partially/fully disagree).

Figure 8. Results for statement No. 8 *Working in Powtoon is suitable to learn new contents.*



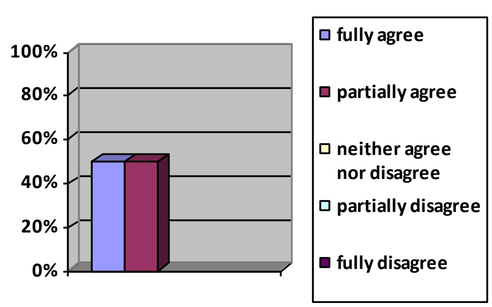
According to the statistics, nearly 60% of students fully agrees that Powtoon is suitable for learning new contents (media usage, etc.). 25% partially disagrees with this, and a small percent of students neither agrees nor disagrees or fully disagrees, 8.3% respectively. Based on the figures, we can conclude that more than half of the students think that Powtoon is suitable for learning about new contents (nearly 60% fully agree) and almost 40% does not fully support this idea (25% partially disagree + 8.3% neither agree nor disagree/fully disagree).

Figure 9. Results for statement No. 9 *The English interface in Powtoon gave me no problem in using the platform and drafting my multimedia project.*



According to the statistics, again a great majority of students, nearly 70%, supports the idea that using Powtoon in English interface presents no problem in using it (fully agree). 8.3% partially agrees with this statement and an equal percentage: neither agrees nor disagree, partially disagrees and fully disagrees. According to these figures, we can conclude that more than half of the students think that using Powtoon in English poses no problems in using the software.

Figure 10. Results for statement No. 10 *The three-minute time limit was enough for me to present in my multimedia project what I intended.*



The results for this statement show half of the students, 50%, fully agree that the three-minute limitation is enough for them to present what they had in mind, as opposed to 50% who partially agree with this. Based on the statistics, we can conclude that generally speaking students think that the three-minute limitation is enough to draft successfully a multimedia presentation.

Lastly, students were asked to complete an open-ended statement and write about their own personal experience using Powtoon (both pros and cons). No student took part in this.

Discussion

The results of our anonymous survey taken by 12 university students and the Department of Forensic Engineering of the University of Criminal Investigation and Police Studies showed different answers and views on Powtoon as an educational instrument. In terms of the platform's user-friendliness, almost half of the surveyed students agreed to this, which is in direct correlation with how useful the students think the platform was in applying what they had learnt during their ESP courses. The percentage of how successfully the students had managed to draft their multimedia project with the available multimedia content was slightly below 50%. Similar studies, however, have different results. Yuliani and Ramachandiran & Mahmud state that the percentage of the respondents they interviewed was considerably high in terms of how easy to use and how useful the platform was in drafting school assignments (Yuliani et al. 2021: 632ff, Ramachandiran & Mahmud 2019: 297). One of the reasons why the user-friendliness percentage was not bigger could be due to software problems the students had when trying to play their presentations on other devices. Nevertheless, the percentage of those who fully agreed was bigger in terms of having no issues using the English interface of the platform. This would imply that the students were proficient enough in English to be able to browse through the platform option, instruction etc. With regard to the improvement of their language skills (writing and speaking), a great majority of students supported this idea while using the platform, leaving only a small number of them undecided or against this statement. In terms of the platform leaving space for student creativity, a very high percentage of students supported this. The percentage of the students who were happy with learning about new media content was high. However, the percentage was not as high (as many as half of the students surveyed answered affirmatively) in terms of the media content available for drafting their multimedia assignments. This could be because of the free version features of the platform, which implies certain restrictions to the media content available only in the paid version (Pais et al. 2017: 129). Lastly, the three-minute limitation was overall not an issue for the students, as evidenced by a high percentage of those who answered affirmatively. Interestingly, in his study Pais claims that a high percentage of his respondents named as one of the main drawbacks of the platform precisely the time limit, as well as the English only interface (Pais et al. 2017: 129).

Conclusion

ESP, as opposed to GPE, implies teaching the English language at tailor-made courses with the focus on key language skills and vocabulary. It is implied that prior to starting to study ESP a student should have mastered the basics of GPE. There are many ways to grade a student's progress in an ESP course. One of them is formative assessment. Its purpose is to diagnose difficulties a student may have in studying; it is usually informal; it is carried out either before or during the language course; and it usually implies awarding a student with an allotted amount of score for a particular activity before the final exam itself, which adds to the total GPA of the course. This activity can be done in a form of a test (a more complex set of questions or a quiz) of some kind or in a form of an oral presentation.

Modern teaching implies the use of IT and CALL. Modern methods for testing students' oral skills imply the use of Power Point Presentations or using certain multimedia presentation platforms. For our case study, we have selected Powtoon, free software for creating multimedia animated presentations.

Some of its characteristics which make it good in contemporary teaching are that many topics can be presented using the software; if made in a creative way, the results can be eye-catching and attention-grabbing presentations; its availability to the digitally literate youth make it a practical tool in education, etc.

Our case study has shown that a great majority of the surveyed students from The University of Criminal Investigation and Police Studies consider Powtoon a good tool to learn new media content, express the creative side of its users, as well as to improve writing and speaking skills. To a lesser degree, students believe it is useful to apply the knowledge of what was learnt at the university courses. The platform user-friendliness was generally not considered a problem. A small number of drawbacks in the platform reflected in the students' disagreement with certain statements. For example, the media content is not fully available except in the paid version. Also, judging by the experience of the surveyed students using the free version, the platform compatibility with other computer devices is poor, making it difficult for the final multimedia project to be played and graded successfully by the teacher.

For future comparison research, we will try to include a bigger sample of students from other University departments.

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A study of verb aspect errors in Aviation English technical descriptions

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Abstract
The paper presents an error analysis study of a translation exercise performed by Croatian L1 university students during their Aviation English course session. The participants of the study were 55 undergraduate and graduate university programme students from The Faculty of Transport and Traffic Sciences, Division of Aeronautics. The study consisted of an elicitation task involving Croatian to English translation of a number of decontextualized sentences, which dealt with various Aviation English technical descriptions and definitions. The goal of the study was to investigate the observed excessive use of the progressive verb aspect in Aviation English definitions and descriptions. The results of the elicitation task confirm a significant overuse of the progressive verb form in contexts requiring simple verb aspect. The paper relates these findings to several studies on L2 acquisition of verb tense and aspect and offers suggestions for teaching verb aspect.

Keywords*: English for Specific Purposes, tense/aspect acquisition, Aviation English*

Introduction

The paper presents a study of verb aspect errors made by Croatian L1 university students during a translation exercise involving Croatian to English translation of a technical text. The study involved 50 undergraduate and 5 graduate programme students from The Faculty of Transport and Traffic Sciences, Division of Aeronautics. It was noticed during oral exams in the undergraduate study programme of aeronautics that during questions that involve descriptions of aircraft engines and systems students tend to use the progressive verb aspect in situations where simple aspect is needed. Descriptions that involve permanent, unchanging situations, general realities or plain facts such as abound in technical descriptions were often expressed using a progressive verb aspect. A translation exercise was designed consisting of twelve decontextulized sentences in Croatian, which the students were instructed to translate into English. The sentences all involved aeronautical topics, from technical descriptions of aircraft systems and engines to aviation history and general facts.

The students who took part in the study were first, second, and third year undergraduate students and first year graduate students enrolled in the civil/military pilot and air traffic control modules. During the first and second year of undergraduate study programme both the civil/military pilot and air traffic control modules are taught Aviation English 1-4 comprising 120 hours of lectures and exercises. At the third year only the air traffic control module students take Aviation English 5 course, which comprises 45 hours of lectures and exercises. Students who enrol in the graduate study programme take Aviation English 6 and 7 courses during the first year of study, comprising 90 hours of lectures and exercises. Students attending pilot modules consequently take only 4 semesters of Aviation English during the first two years of the study. Regarding the organization of the language instruction, in the first semester students take Aviation English 1 course and revise the verb system, while the topic of verb tense/aspect used in technical descriptions is introduced in the third semester in the Aviation English 3 course in a lesson that explicitly states that “simple present is the essential time in technical descriptions” (Kukovec, 2001: 38).

Regarding the first year students' English proficiency levels, the situation is not quite clear. In Croatia, secondary school students in their final year take the *matura* exam, a standardized exam on the national level assessing knowledge and skills in various subjects, English included. The exam is taken for the purpose of admission to higher education institutions in Croatia. Secondary school students choose whether they want to take the basic level English matura exam or advanced level English matura exam, depending on the enrolment requirements of their desired university study programme. Enrolment requirement for the Faculty of Transport and Traffic Sciences is the completed basic level English matura exam. According to the National Center for External Evaluation of Education, the institution which administers the matura exams, completed basic level English matura exam corresponds to the A2+ proficiency level of the Common European Framework of Reference for Languages (NCVVO, 2021:6). Consequently, matura exam does not provide us with a precise assessment of the students' language proficiency, we only know they are at least A2+ level. Regarding the English language instruction background of the first year students, it is also very difficult to generalize. Students enrolling in the aeronautics university study programme can have between 7 and 12 years of English language instruction, depending on their choice of primary and secondary schools.

Definitions

Two basic terms that we need to define for the purposes of this paper are verb aspect and technical text. Regarding both the terms aspect and tense, our understanding of them is closest to the definition provided by Bernard Comrie in *Aspect – an introduction to the study of verbal aspect and related problems* (Comrie, 1976). Comrie's classic and often quoted definition of aspect is "different ways of viewing the internal temporal constituency of a situation" (Comrie 1976: 3). Another useful definition defines aspect as "a way of conceiving the passage of action" (Holt 1943, cited in Binnick 1991: 208). Regarding tense, "it relates the time of the situation to some other time, usually to the moment of speaking" (Comrie 1976: 2). In that sense, and following the usual practice of teaching verb tense/aspect in English as a foreign language, we take the categories of aspect to be simple, continuous and perfect, and categories of tense past, present and future. As for the term technical text or technical writing, we mean language used in technical or occupational fields such as aeronautics, engineering, chemistry, medicine, etc. We consider Aviation English (AE) to be a domain of English for Specific Purposes (ESP) and to contain elements of technical language, especially when relating to aeronautical technology, aircraft maintenance, training, aircraft documentation etc., rather than just radiotelephony communication in standard phraseology between flight crews and air traffic control units. Technical (English) language is in that sense a part of AE but not confined to it. Furthermore, we take technical texts to be organized around specific rhetorical patterns and to employ certain categories of grammar more frequently than others. For example, since definitions normally express permanent or habitual states and processes, simple present tense is prevalent in these kind of texts.

L2 acquisition of tense and aspect

Since our study deals with verb aspect error analysis in L2 English learners, it is necessary to give some theoretical background to L2 verb aspect acquisition and outline the basic developments of the research in the field. Research into aspect acquisition mostly takes form of studies into the acquisition of verb morphology (Andersen and Shirai 1996). Andersen and Shirai's paper "Primacy of Aspect in Language Acquisition" (Andersen and Shirai 1996) is one of the first reviews of studies into L2 aspect acquisition. The paper gives an overview of L2 aspect acquisition studies conducted mainly in the 1980s, involving learners of different first languages. The majority of studies reviewed involved just one learner, and only four of the reviewed studies involved more than ten learners. The learners were of different ages, with most of them being 18 years old or younger, and of different linguacultural identities. The idea of primacy of aspect in L2 acquisition is central to all of the studies reviewed by Andersen and Shirai and is defined as a “phenomenon of limiting a tense-aspect marker to a restricted class of verbs, according to the inherent aspect of the verb” (Andersen and Shirai 1996: 529). In other words, the occurrence of verb aspect morphology is influenced by the inherent (lexical) aspect of the verb. Since the connection between verbal morphology and lexical aspect is significant in the linguistic systems of adult native speakers (Bardovi-Harlig 2012), it is, therefore, reasonable to expect that there would be a similar interaction of verbal morphology and lexical aspect in the process of second language acquisition. This means that when learning a second language, a person's understanding of how the different aspects of a verb are expressed through its morphology is likely to be influenced by their knowledge of their native language's verbal morphology and lexical aspect. This hypothesis has also been known as the aspect hypothesis, the defective tense hypothesis, and the relative defective tense hypothesis (Bardovi-Harlig 1998). The concept of the inherent (lexical) aspect of the verb is fundamental to all of the variants of this hypothesis and is articulated by Andersen and Shirai in the following way:

“Inherent lexical aspect, also referred to as situation aspect (Smith 1983) or Aktionsart, refers to the characteristics of what is inherent in the lexical items that describe the situation. For example, *know* is inherently stative, whereas *jump* is inherently punctual (i.e., momentary and having no duration)”(Andersen and Shirai 1996: 530).

The categorization of inherent temporal properties of verbs into four groups is the work of Zeno Vendler, who proposed four categories of inherent meanings of verbs (Bardovi-Harlig 1998) – achievement, accomplishment, activity, and state. This classification dates back to Aristotle and has been recently further developed by Dowty and Mourelatos (Andersen and Shirai 1996). Depending on the semantics of a verb – whether its inherent meaning is one of an event taking place instantaneously, having some duration, end point, or having no dynamics and just continuing – verb aspect morphology is acquired. The aspect hypothesis has been tested on different samples of data collected from different groups of learners and its central proposition seems to be valid – “even with the increase in learner background variables and task variation, recent studies support the claim that a learner’s use of tense-aspect morphology is influenced by lexical aspectual class” (Bardovi-Harlig 1998: 474).

An alternative hypothesis of L2 tense/aspect acquisition is the discourse hypothesis. This hypothesis claims that the narrative structure influences the distribution of tense/aspect morphology. The hypothesis is based on the distinction between narrative foreground and background and posits that “learners use emerging verbal morphology to distinguish foreground from background in narratives” (Bardovi-Harlig 1995, cited in Bardovi-Harlig 1998: 476). According to Bardovi-Harlig, “previous work in second language acquisition that links tense/aspect to narrative structure suggests that a relationship exists between the use of verbal morphology and the foreground (the actual story line) and the background (the supportive material) of the narrative (1995: 264). In a detailed comparative study of the two hypotheses Bardovi-Harlig finds them to be complementary and concludes that “a point of departure for future research is the understanding that interlanguage temporal systems are shaped by both the semantics of lexical aspect and the pragmatics of discourse” (1998: 501).

More recently, analyses of corpora of spoken English and focus on principles of category learning (Wulff et al. 2009) developed the debate of tense and aspect acquisition towards the complex interaction of input elements and their impact on morphology. Features such as prototypicality of lexical aspect, frequency distributions and form, as well as the interactions between these features, were investigated to determine their influence on the order of acquisition of particular verbs. Underlying this approach is a constructionist perspective on language acquisition, which focuses on input of concrete examples or prototypes and relates them to learner cognition. Wulff et al. find that “it is the conspiracy of these several different factors working together that drives acquisition of linguistic constructions.” (Wulff et al. 2009: 67). Some studies, such as Dominguez et al. (2013), supplied inconclusive data regarding the aspect hypothesis in that they do not identify a clear pattern of acquisition of verb aspect that would be supportive of the hypothesis. Using two sets of data collected from several groups of participants of varying proficiency levels, they find that "in the light of all these results, we have enough evidence to argue that a pattern of emergence and development of past-tense forms across different lexical classes consistent with the lexical aspect hypothesis is not supported by our corpus of dana" (Dominguez et al. 2013: 12). Similarly, a 2018 study by Gonzales and Quintana found additional reasons for revision of the lexical aspect hypothesis. In a study of the acquisition of L2 Spanish by native English and Dutch learners, Gonzales and Quintana suggest that the aforementioned Vendlerian classification consisting of four categories of verb meanings, central to a large volume of work on verb aspect acquisition, is not adequate for explaining their data. They state that "there is no influence of the Vendler classification in the L2 production of our students" (Gonzales and Quintana, 2018: 622). A 2015 study of the development of progressive morphology in L2 Japanese (Ryu et al. 2015) also stresses the interplay of factors such as input, learner characteristics, instruction and L1 characteristics in the development of verb acquisition patterns. Their conclusion is, however, less dismissive of the general validity of the aspect hypothesis: "the real issue is perhaps not whether the Aspect hypothesis holds in all situations, but under what conditions… Considering this, it would be wise to treat the descriptive generalization of the Aspect Hypothesis as a universal tendency, not as an absolute universal" (Ryu et al., 2015: 816). Relating to different conditions in which the hypothesis may hold or not, a 2020 state of the scholarship review by Bardovi-Harlig and Comajoan-Colomé provides the following synthesis of the research on aspect hypothesis: "Research in the last 20 years can be characterized as having tested the universal against the particular. The universal is represented by the aspect hypothesis, and the particular by proficiency, first language, input, and task. The overarching question has been whether the aspect hypothesis holds, or whether the acquisitional sequences it predicts can be disrupted by individual variables." (Bardovi-Harlig and Comajoan-Colomé 2020: 1138).

Concerning the principle observation of this study, the overuse of progressive verb aspect in contexts requiring simple verb aspect, several studies dealing with the aspect hypothesis note the appearance of the progressive marker in various unexpected positions. Housen (2002) in his work on the development of English verb morphology in Dutch and French-speaking learners of English states that there is a "more general tendency for untutored L2 learners of English to overuse the progressive marker -ing (due to its frequency, phonotactic saliency and morphophonemic stability in the input)"(Housen 2002: 173). Although the participants of our study were not untutored learners, we cite Housen's observation here because it suggests a possible explanation for the same kind of occurrence as the one encountered during the translation exercise. Andersen and Shirai (1996) in their aforementioned review of the studies on primacy of aspect in L2 acquisition offer another interesting perspective on the overuse of the -ing progressive verb marker: "the results regarding the use of -ing are important because they are different from what is found in L1 acquisition in that progressive markers are sometimes overextended to stative verbs in some of the L2 studies" (Andersen and Shirai 1996: 544). Commenting on the linguistic background of the participants of the reviewed studies Andersen and Shirai make a point that is worth quoting in full:

"Many of the L1s of the subjects in the above studies have imperfective aspect, which is strongly associated with durativity (Comrie 1976, Weist et al. 1984). It is plausible that these learners associate the *-ing* marker with imperfective aspect in their L1, as progressive is part of imperfectivity (Comrie 1976).

Therefore, along with a more general tendency to overuse the progressive aspect due to its morphological prominence or stability, imperfective aspect of some L1 languages is also seen as a factor influencing the overextension of -ing forms. There is, of course, no reason that several different factors, from L1 syntax, phonology or semantics could not work together to produce this acquisitional pattern.

Andersen and Shirai, for example, suggest that "universal factors (i.e. markedness, prototype) and the learner's L1 interact and subtly influence L2 development" (1996: 545). Given that this extremely complex problematic is outside of the scope of our study, we limit ourselves to stating that the suggestion concerning the L1 interference seems particularly plausible given the background of the study participants (Croatian L1 speakers) and the high incidence of imperfective verb aspect in the translation task.

Aim and methodology of the study

The aim of the study was to determine the incidence of verb aspect errors in technical descriptions and definitions amongst the students of the Aeronautics study programme at the Faculty of Transport and Traffic Sciences. Given that distinguishing between present tense habitual and progressive meanings is a marker of an earlier stage of language acquisition, the aim was to ascertain how frequent this error is in roughly upper-intermediate English learners and to try to account for it.

The incidence of verb aspect errors was measured through the means of a translation task consisting of twelve sentences in Croatian. Out of the twelve sentences, eight were designed to target the simple-continuous aspect problematic while four sentences served as distractors. All twelve sentences dealt with aviation topics, but were contextually unrelated. Out of the total of 11 verbs tested in the translation exercise, 9 were of imperfective aspect, 1 of perfective aspect and one was an auxiliary verb. The task description provided no context for the sentences. The students had all been taught the specific-purpose vocabulary employed in the sentences earlier in their university programme. They did not volunteer to participate in the study nor were they told that the exercise they were doing was a part of a study. They were given the translation exercise as a part of their regular classes. The instruction for the exercise stated only "Translate into English". No further context to the exercise was given in order to make the answers as natural as possible and to avoid giving away what the feature tested for was. Cloze type exercises employed in similar verb aspect acquisition studies (Bardovi-Harlig 1999) were also avoided for the same reason. One of the concerns in designing the elicitation task was that any kind of further instruction beyond the simplest one risks compromising the spontaneity of responses, especially with second year of undergraduate study students who had been taught the verb tense/aspect system during their Aviation English 3 course. Another concern was the duration of the exercise, which we felt, should not be so long as to cause fatigue or discourage students from doing it altogether. We decided that the task should not exceed 15 minutes.

Here we provide several example sentences in Croatian with English translation in parentheses:

U prvom taktu povećava se volumen cilindra i usisava se svježi zrak. (In the first stroke the volume of the cylinder increases and the air is sucked in).

Zrakoplovi koji uzlijeću sa zračnih luka RH mogu biti podvrgnuti pregledima na stajanci. (Aircraft taking off from the airports in the Republic of Croatia may be subjected to inspections on the apron).

Concorde je prolazio kroz dva ciklusa zagrijavanja i hlađenja tijekom leta. (Concorde went through two cooling and heating cycles during flight).

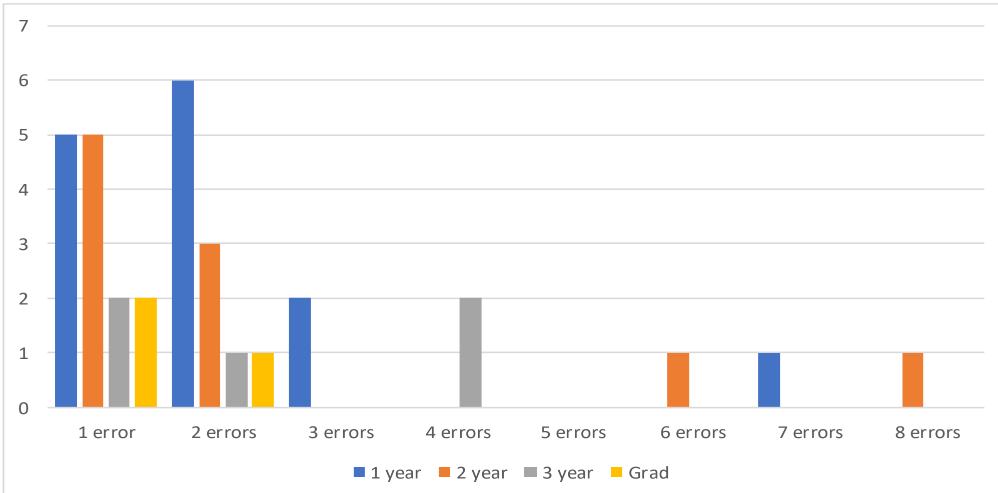
Horizontalnim okretanjem rotora razvija se vertikalna uzgonska sila. (Horizontal turning of the rotor creates a vertical lift force).

Primjena mlaznih motora dovela je do revolucije u putničkom transportu. (The use of jet engines led to a revolution in passenger transport).

Results of the translation exercise

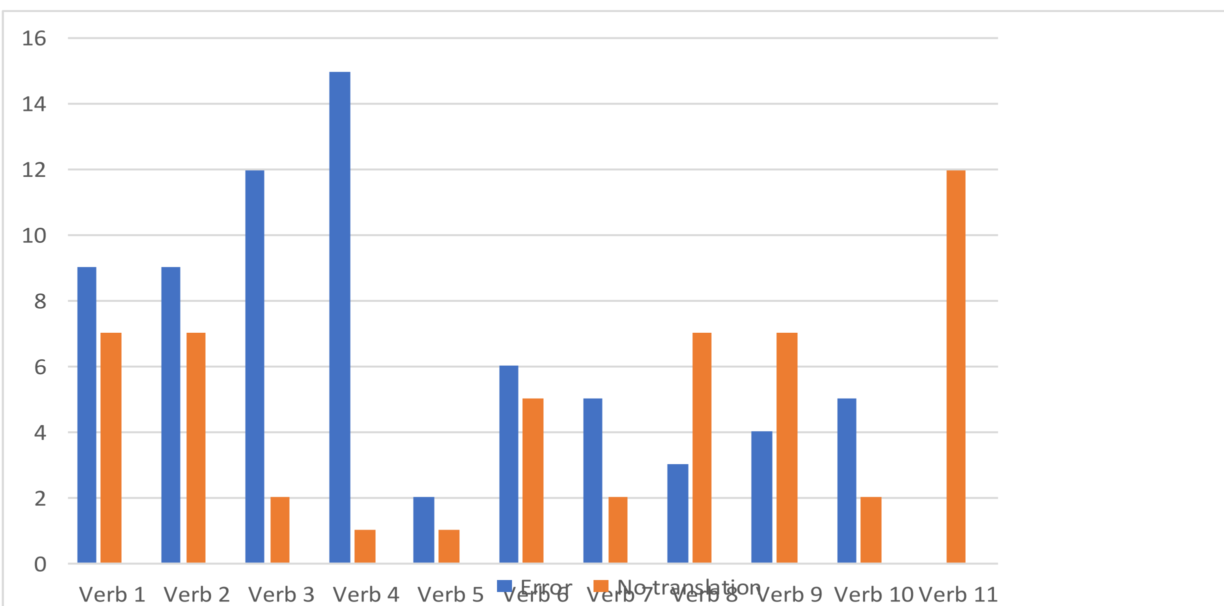
The results show that out of 55 students, 18 translated all the sentences using the verb tense/aspect correctly. Out of 37 students who made errors, 6 of them made three or more errors, and 31 students made 1 or 2 errors. Adding to this number the number of sentences in which the translations were not provided, we come to a considerable number. The number of sentences in which no translation was provided is presented in Figure 2. Sentences that were left untranslated were not included in the category of error and are not presented in Figures 1 and 3. We present here first the table illustrating the distribution of errors.

Figure 1. Distribution of errors



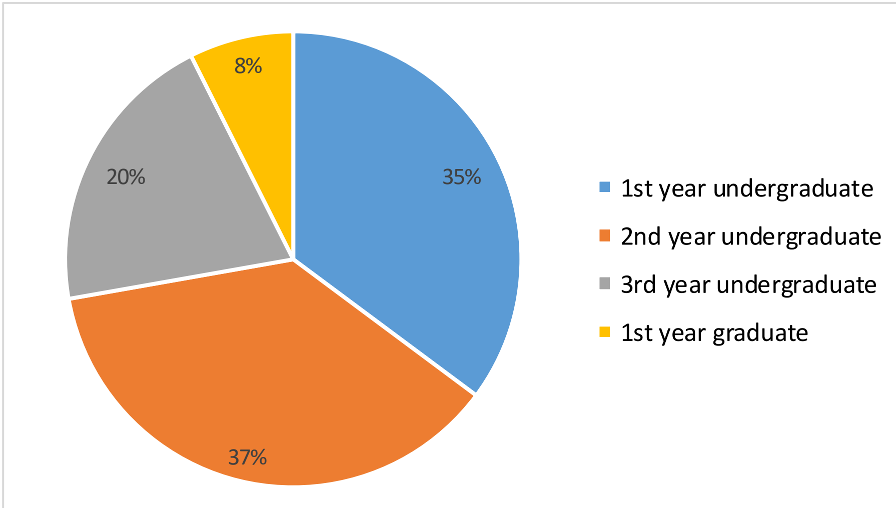
Results shown in Figure 2, which exhibit an increasing number of sentences with no translation provided as the exercise progressed, can be understood in terms of the decreasing motivation and/or fatigue of the participants. We would also suggest that the relatively higher number of errors in the first four verbs can be explained by the process of accommodation to the type of task involved. The participants probably needed a bit of time to get accustomed to the type of exercise involved.

Figure 2. Number of errors per verb



The majority of study participants (39) were first and second year of undergraduate study programme students. Only five students who participated in the study were graduate study programme students. Figure 3 presents the distribution of study participants according to the year of study.

Figure 3. Distribution of participants according to year of study.



The average value of errors per student decreases with the year of study with the first year undergraduate programme students having the highest average score of errors per student and the graduate programme students having the lowest score of errors per student.

Limitations of the study and suggestions for further research

There are several limiting factors that need to be addressed before discussing the study's implications for teaching and overall conclusions. The first concerns the sample of the students. Although all of the participants of the study were long time learners of English as L2 and are all enrolled in the same university study programme, it would be rash to assume uniformity in their language proficiency levels. Although the undergraduate study programme is made up of two different modules that take the same Aviation English courses, the students can additionally be divided into three groups – air traffic control students, civil pilot students and military pilot students. Language proficiency levels tend to be the highest in the air traffic control group and lowest in the military pilot group, although as of yet we have not conducted any comprehensive empirical studies to confirm this observation. Military pilot students also more often tend to come from vocational secondary schools with fewer hours of language instruction. Levels of motivation for Aviation English classes also tend to be higher in students who have attended secondary schools of the grammar school type where language instruction is generally more advanced and challenging. Although there is an English language entry exam during the enrollment period, its main purpose is to check for any speech impediments in candidates whose future jobs will involve extensive use of radiotelephony, rather than to give a comprehensive language proficiency result for each candidate. All this points to the fact that proficiency levels can sometimes differ considerably within a seemingly uniform sample of learners.

The second point concerns the nature of the task employed in the study. Most of the L2 tense/aspect acquisition studies reviewed during the writing of this paper (Andersen and Shirai 1996, Bardovi-Harlig 1999, Housen 2002) employed a variety of tasks in elicitation of samples from learners, such as conversational interviews, film retell tasks, cloze passages, short contextualized passages, etc. Although these studies were much broader in scope and dealt with aspect/tense acquisition rather than verb aspect error analysis, there is, of course, merit to employing each of these elicitation tasks in error analysis-type of study as well. Constraints of time and logistics involved in interviewing roughly 50 possibly unwilling university students made us decide in the end on a translation task, which could be incorporated into a regular teaching session during the semester.

Regarding suggestions for further research, we feel that the elicitation task that we employed in this study could be complemented with a short contextualized passage translation task. In that way we could assess if the contextual meanings and discourse organization affect in any way the correct choice of L2 verb aspect. Seeing that technical texts are more difficult to organize according to the foreground-background lines that shape the discourse hypothesis, it would be interesting to see what kind of results would the application of the said hypothesis provide on a technical kind of a text, given the usual lack of clear narrative lines and prevalence of stative and durative meanings in such textual genres. A comprehensive analysis of the discursive properties of a technical text would be a precondition for such an attempt.

Furthermore, given the centrality of the aspect hypothesis in the current verb aspect acquisition research, it would be useful to design an elicitation task in which all categories of inherent lexical aspect are represented. Verbs employed in our elicitation task featured a predominance of imperfective meanings, as mentioned in the aim and methodology section of the study. The reason for this was that in definitions and descriptions of processes or states verbs with imperfective meanings prevail.

A third suggestion for further research, along with taking into account the wide range of findings relating to aspect and discourses hypotheses, would be to establish a more precise level of language proficiency amongst the participants. We have already mentioned that even though our sample of participants projects a certain uniformity in terms of language proficiency that might not necessarily be the case. In her findings on the role of narrative perspective on the verb tense/aspect acquisition, Bardovi-Harlig states that “level of proficiency clearly emerges as a likely factor in the distribution of tense relative to grounding” (1995: 264). Bearing that in mind, a precise pre-testing language proficiency assessment of the study participants should improve the validity of the results.

Some observations on teaching English L2 tense and aspect

Before delivering our conclusions, we would like to make an observation concerning the conceptualization of the tense/aspect in English L2 instruction and suggest how this conceptualization might influence the student proficiency in handling these key verb categories. Since our analysis of verb aspect errors committed by university undergraduate students’ points to a significant confusion regarding the nature of the category of verb aspect, we would like to take a brief look at how the English verb system is often approached in secondary education classrooms. It has been our experience teaching undergraduate Aviation English courses that although students generally have a solid grasp of the verb system and are familiar with the verb tenses, they do not really understand the concept of verb aspect. They have learned to think about the temporality of verbs in a sequential way – they first learned present simple, than present continuous, then past simple, then past continuous, then present perfect, then past perfect, with future tenses thrown in somewhere in the middle of this sequence. This is, of course, a logical way of introducing the tenses and probably cannot be significantly improved, but it also creates a certain sense of linearity and isolation of these individual concepts. It very rarely occurs to students that present perfect, past perfect and future perfect might in some strange way be alike. Some of these tenses are contrasted through mixed tenses exercises, but usually in the standard present/past simple and continuous pairing or simple past and present perfect pairing. During the B1 level instruction present perfect simple and continuous are contrasted and during the B2 level future perfect and continuous and the idea of narrative tenses are usually introduced.

The category of aspect rarely gets explicitly covered outside of the individual tense pairings and the idea of the inner temporality of a situation in that way gets somewhat skirted. Exercises that would, for example, focus on the verb aspect through different tenses, thereby drawing attention to the inner temporality of a situation, are extremely rare. A cursory review of the English language textbooks available for secondary school teaching in Croatia for the year 2019/2020 gives an indication that most of the teaching materials available avoid presenting the category of verb aspect outside of the particular tense/aspect pairing. According to the table published on the Croatian Ministry of Science and Education website (MZO, 2019), most popular textbook series for the said school year seems to be Oxford University Press' Headway 5th edition (Soars, L. and Soars, J. 2019), and Profil Klett's Solutions 3rd edition (Falla T. and Davies, P.A. 2019) and Insight (Sayer, M. and Roberts, R. 2019). In none of the three most popular textbooks for secondary school is the verb aspect explicitly dealt with, with the focus instead being on the tense/aspect pairings. Grammar exercises in which, for example, different tense forms are elicited, but within the same category of aspect, seem to be overall very rare in the available teaching materials. We would suggest that in a situation in which the confusion surrounding the concept of aspect extends well into upper intermediate levels of proficiency it might be helpful to design exercises that in some form isolate the category of verb aspect. An example of this kind of exercise would be a cloze type mixed tense exercise in which only, for example, perfect aspect verbs are elicited, in past, present, or future. Working within the same category of aspect will help students focus on the meaning and use of *perfect* aspect by contrasting the past, present and future forms.

The results of our translation exercise show that even learners of high language proficiency levels and with more than twelve years of formalized language instruction commit verb aspect errors with some regularity. Although the above-mentioned remarks on the conceptual confusion surrounding the category of verb aspect are entirely anecdotal and have not been supported by empirical research into how undergraduate students conceptualize the English L2 aspect, we provide them here in order to put the results of our study in the context of the classroom and language instruction methodology.

Conclusions

The study was designed with the premise that the incidence of verb aspect errors is overall high, which was a subjective observation based solely on the experience of undergraduate programme oral exams. Our findings indicate that more than half of the students participating in the exercise made at least one verb aspect error. Considering that most students had been learning English for at least twelve years, this figure appears to be significant. One suggestion that would account for the occurrence of errors is the interference from L1 Croatian that results in imperfective verb aspect in Croatian being translated as the progressive aspect in English. A more detailed study is needed to elaborate on this correlation. The incidence of errors decreases with the number of Aviation English courses taken during the university study programmes. A drop in the number of errors made by the third year students can be explained by the fact that in the second semester the students are explicitly taught the prevalence of simple aspects in technical texts. In terms of suggestions for designing future course materials, we suggest that in teaching verb aspect it could be beneficial to design exercises and tasks in which students practice the usage of various tenses, but within the same category of aspect. Activities that help students contrast the same category of aspect through different temporal circumstances will help them focus on the idea of aspect and its particular meanings. In order to overcome language transfer issues, course materials should be designed to help students understand unique features of technical English, such as grammar structures and conventions for writing technical documents. Additionally, course instructors should be able to identify and address the specific language transfer issues faced by their students. Explicit instruction and exercises tailored to contrast specific verb/aspect pairings are suggested as a way to better prepare students for effective communication in technical contexts.

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Collocations in bilingual ESP dictionaries – case study of business dictionaries

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Abstract
Collocations are a key issue in second language learning, translation, lexicography and proofreading and have provoked the interest of theoretical linguists. Applied linguists, particularly foreign language teachers have also become more interested in them as the awareness of their importance for successful communication in a foreign language (FL) increases. Learning the meaning(s) of the words characteristic of a particular profession is one the elements of the mastery of a language for specific purposes (LSP). However, to successfully communicate in speaking and writing in a foreign language, it is also necessary to know how these words relate to each other. The learning and correctly using collocations are basic requirements for the development of communicative competence in a foreign language, both in general language and in an LSP. Collocations should be an integral part of monolingual and bilingual (general language and LSP) dictionaries, which are an indispensable tool in foreign language learning. To research to what extent collocations are part of entries in English-Croatian and Croatian-English LSP dictionaries, with the aim of providing guidance to future lexicographic work, a quantitative and qualitative analysis of selected entries in pairs of bilingual dictionaries of business language was conducted. Entries were chosen from glossaries and word lists in Business English course books commonly used at higher education institutions in Croatia. The dual analysis showed that collocations in English and Croatian are insufficiently and poorly represented in bilingual dictionaries. Finally, several suggestions for improving future (bilingual) LSP dictionaries are offered.

Keywords: *collocations, dictionary, non-native learners, Business English*

Introduction

One of the pillars of language knowledge is vocabulary. Vocabulary includes both single word forms and recurring lexical units consisting of several words that are used and learned as a whole[6]. According to the Common European Framework of Reference (CEFR 2001: 109), knowledge of the vocabulary of a language and the ability to use it is lexical competence, which in turn is one of the elements of linguistic competence. Linguistic, sociolinguistic and pragmatic competence (CEFR 2001: 108) are the three elements that make up communicative competence (CC), an important concept in language learning. An important feature of communicative competence is the mastery of collocations. Lexical competence is a key component of communicative competence, as confirmed by research, see e.g., Barfield and Gyllstad 2009, Nation 2001, Wray 2002, 2012. Collocational competence, which refers to the ability to combine lexical and grammatical chunks to produce fluent, accurate, and semantically and stylistically appropriate multi-word expressions (MWEs), is an important segment of lexical competence and was introduced as a concept by Hill (2000: 49).

[6] Research on recurring lexical units, of which collocations are a subtype, has grown in scope and scale over the past thirty years so that the terminology in this areas is extensive. Scholars refer to these recurring units as formulaic sequences (Nattinger & DeCarrio 1992, Ellis 1996, Schmitt 2004, Wray 2002, 2008, Granger & Meunier 2008), multi-word expressions (Gačić 2001, Matić 2017, Heid 2008, Sailer & Markantonatou 2018), multi-word units (Štambuk 1997, Pritchard 2002, Luzer & Tominac Coslovich 2016, Gries 2022) and lexical bundles (Biber et al. 1999, Cortes 2004, Johnston 2017, Zari & Valipouri 2022). In this paper, we have chosen to use the term multi-word expressions because it best illustrates the basic structure and nature of collocations.

Native speakers of a language develop collocational competence, i.e., acquire collocations as they learn their mother tongue (L1). In contrast, foreign language (L2) learners, who learn an L2 in instructed settings, need to be helped to develop collocational competence and rely on their teachers, the materials used (course books, workbooks, etc.), and the dictionary. Dictionary is an important source of information about the vocabulary of a language, i.e., its words, their meanings, and examples of their usage. It is, therefore, essential that collocations are part of dictionary entries. It is particularly relevant for bilingual dictionaries because collocations are more of a challenge/problem in production than in reception, which has been confirmed by research (Bahns and Eldaw 1993, Laufer and Waldman 2009, Laufer 2011, Pavičić Takač and Miščin 2013, Begagić 2014, Duplančić Rogošić 2014, Miščin 2015, Duplančić Rogošić and Koren 2017).

In order to provide a basis for the future development of dictionary entries for the benefit of native and non-native speakers of Croatian, this paper aims to answer the following research questions: How much information and what kind of information on collocations is provided in entries in bilingual business English dictionaries with Croatian as the target or source. The aim of this study is to answer these questions in order to provide guidance to future authors of bilingual LSP dictionaries.

The remainder of the paper is organized as follows. After the introduction, Section 2 gives a brief theoretical overview of collocations, their main characteristics, and the differences between collocations and structurally similar multi-word expressions. This section also provides a literature review of previous studies on the treatment of collocations in dictionaries in general and in relation to bilingual and specialized dictionaries. Section 3 explains the methodology of the analysis. The results of the analysis of selected dictionaries are presented in Section 4. Section 5 discusses these results and provides directions for future research. Section 6 explains the limitations of the study and provides concluding remarks.

Theoretical background

The concept of collocations is one of the main problems faced by foreign language learners and one of the most interesting areas of linguistic research. Nevertheless, there is no unanimous view on what collocations are and how they can best be defined and distinguished from other types of multi-word expressions (MWEs). The following paragraphs provide an overview of researches and views relevant to the present study.

The definition of collocation in the modern linguistic sense is attributed to British linguist John Rupert Firth, who used the term in the 1950s to describe the linguistic phenomenon of the juxtaposition of words based on the competence of native speakers. Perhaps the most famous definition of collocations is his “You shall know a word by the company it keeps” (Firth 1957: 179). Firth also states that: “The collocation of a word or a ‘piece’ is not to be regarded as mere juxtaposition, it is an order of *mutual expectancy*. The words are mutually expectant and mutually prehended” (Firth 1968: 181). By introducing the concept of mutual expectancy, however, Firth creates a vicious circle because, according to his definition, words become part of the collocation by virtue of their meaning and receive part of their meaning because they collocate with a particular word. Although Firth's approach to collocations had some ambiguities, it remains relevant because it has drawn attention to the importance of collocations as multi-word expressions. Moreover, his idea of mutual expectancy also points to one of the main features of collocations, namely their arbitrariness. There is no (obvious) reason why certain words enter into a collocation, e.g., why *strong tea* is an acceptable collocation and **powerful tea* is not even though *strong* and *powerful* are synonymous, which illustrates why collocations are a particular challenge for non-native speakers. Namely, when they do not know how to form a correct collocation in L2 they translate collocations word for word from L1 to L2 instead of looking at collocations as prefabricated multi-word expressions. Lack of collocational competence also leads students to make (grammatical and/or lexical) mistakes, as they tend to use longer utterances in L2 because they do not know the exact collocation they need to express themselves correctly. It also leads them to rely on their L1 and transfer patterns from L1 forming sentences that might be grammatically correct but sound awkward. When non-native speakers know how to form a correct collocation, they can express their ideas correctly and fluently without sounding unnatural.

The basic structure of a collocation is typically a binary one, see e.g., Benson et al. 1986, Hausmann 1989, Sinclair 2004, Mel'čuk 2013. Binary structure of a collocation means that it consists of a base and a collocate. Depending on the message he wants to convey, the speaker first chooses the base of the collocation because it carries the meaning of the collocation. The choice of collocate is also determined by the message, but is also limited by the base. Collocations do not arise completely spontaneously in speech like free combinations, but are retrieved from the speaker's memory as a whole. The analysis of collocations as a binary structure and the distinction between base and collocate has its practical applications in lexicography as it facilitates the inclusion of collocations in dictionaries and similar manuals and makes it easier for the user to look up a collocation.

In terms of structure, collocations are very similar to multi-word terms (MWT) in LSP, but the two MWE types differ in their semantic features. MWTs are lexicalized and refer as a whole to an object or concept in extra-linguistic reality. Substitution of elements of MWTs is not possible because the meaning changes. For example, *loyalty bonus* only as a whole means “money that is paid to ….an employee who works for the same company for a long time” (Parkinson et al. 2005) and *attendance bonus* only as a whole means “extra pay that some companies give their workers for coming to work regularly“ (Parkinson et al. 2005). In collocations, the base carries the meaning of the collocation and changes within a collocation are possible without changing the meaning of the collocation as a whole, i.e., changing the collocate does not change the meaning of a collocation as a whole, e.g., a *bonus* can be *big, huge* or *large* (McIntosh et al. 2009).

Although collocations and multi-word terms differ in their semantic features and can be clearly defined theoretically, the question arises whether this is necessary from a practical lexicographic point of view. Therefore, in this paper, multi-word terms consisting of *adjective + noun* and *noun* (*in the function of an adjective*) + *noun* are considered collocations, regardless of the fact that some of these multi-word expressions could be classified either as collocations or MWTs. We are aware of the differences between the two types of multi-word expressions, but believe that user needs should be more important than focusing on terminology and classification. We believe that the average dictionary user is not aware of these differences and that for them the priority is to find information in the dictionary.

Various authors have analysed monolingual, bilingual, and specialized dictionaries with English as the source or target language. Since the studies of monolingual English dictionaries tend to concentrate on the same dictionaries thus yield similar results[7], some other languages have been included in the literature review.

Walker (2009) examined the treatment of collocations in learner dictionaries (CCALD, LDOCE, OALD), collocation dictionaries (OCD, BBI, DSC), and business English dictionaries (OBED, LBED) and concluded that all of the dictionaries examined use a corpus when compiling definitions and selecting examples.

[7] In the literature review on the treatment of collocations in dictionaries, the abbreviations listed below are used, regardless of the fact that different editions were analysed depending on the time of the study. The abbreviations and the corresponding dictionaries are: LDOCE - Longman Dictionary of Contemporary English; OALD - Oxford Advanced Learners' Dictionary; CCALD - Collins COBUILD Advanced Learners' Dictionary; COBUILD - Collins Cobuild English Language Dictionary; CIDE - Cambridge International Dictionary of English; OBED - Oxford Business English Dictionary for Learners of English; LBED - Longman Business English Dictionary; OCD - Oxford Collocations Dictionary for Students of English; BBI - the BBI Dictionary of English Word Combinations, and DSC - the LTP Dictionary of Selected Collocations.

The dictionaries use a relatively broad definition of collocation and, therefore, contain a variety of different types of collocation pairs. The examination of the three learner dictionaries revealed that most collocations in the entries are selected to illustrate aspects of the headword definition. The dictionaries tend to use the more frequent collocates. All three collocation dictionaries are dominated by entries for nouns, since it is assumed that the learner usually starts with a noun and looks for its verbal or adjectival collocates. The business dictionaries include more of the most frequent collocates than the slightly less frequent collocates, which often mark the small, but significant differences in meaning between the items in a group.

Mittmann's (1999) analysis of four learner dictionaries found that OALD, LDOCE, and CIDE list more collocations than COBUILD and that there are often differences in the type of collocates listed, which is often a consequence of differences in the types and numbers of polysemous meanings included in the entries. Like learner dictionaries, business English dictionaries include more of the most frequent collocates than the slightly less frequent collocates, which often mark the minor, but significant differences in meaning between entries.

Lew and Radłowska (2010), in their study on the success of Polish learners of English in retrieving selected lexical collocations, found that, in LDOCE and OCD, collocations are usually at the base and that there are many hidden collocations. LDOCE provides a brief definition and illustrates the possible combinations in the examples. LDOCE systematically tries to explain the less obvious collocates. These brief definitions are provided in a simple vocabulary that is well suited to convey meaning(s) and distinguish between different collocates. The definitions are also further supported with examples. Users can also use example sentences and phrases to verify that they have found the correct collocations. OCD has fewer semantic clues to meaning(s) and fewer examples, as well as more undifferentiated collocates.

Lorente et al. (2019) analysed specialized collocations in specialized Spanish monolingual dictionaries, specialized bilingual Spanish–English and English–Spanish dictionaries, Spanish terminology data banks and specialized collocation dictionaries (one monolingual, one multilingual and several bilingual ones). Their analysis revealed that the treatment of collocations in the studied dictionaries/data banks is quite poor and fewer collocations were found than expected. Most specialized dictionaries, both printed and online ones, provide definitions and encyclopaedic explanations that are clearly insufficient for the users as collocations are not part of the entries.

Luzer and Tominac Coslovich's (2016) analysis of 9 bilingual technical dictionaries with English as the source or target language showed that multi-word lexical units that have a verb as one of their constituents rarely occur in dictionaries. Šnjarić (2018) provided a lexicographic analysis of verb-noun collocations of German and Croatian language of science and found that the analysed collocations are not part of dictionary entries to the extent that the author believes they should be.

Duplančić Rogošić (2007) analysed eleven general language dictionaries: two monolingual American English, four monolingual British English, one monolingual Croatian, two bilingual English-Croatian (*Veliki englesko-hrvatski rječnik*. *English-Croatian Dictionary-VEHR* and *Englesko-hrvatski rječnik-EHR*) and two bilingual Croatian-English ones (*Veliki hrvatsko-engleski rječnik*. *Croatian-English Dictionary*-VHER and *Hrvatsko-engleski rječnik- HER*). The analysis was conducted on 105 nouns, 88 adjectives, and 54 verbs as bases and revealed significant differences in the treatment of collocations. The analysis showed that collocations are not part of the entries in monolingual American dictionaries. Some British dictionaries (CALD and LDOCE) devote separate sections to collocations, while in others (OALD and CCALD), they receive little attention. In the English-Croatian dictionaries, collocations are poorly represented, and although the number of entries with collocations appears high (VEHR: 35 nouns, 2 verbs, and no adjectives; HER: 36 nouns, 5 verbs, and 1 adjective), usually only one collocate is given for the base under study. In the Croatian-English dictionaries, collocations are slightly more represented (VHER: 101

nouns, 54 verbs and 43 adjectives; HER: 95 nouns, 25 verbs and 8 adjectives), with more collocates usually given.

The study presented in this paper is a contribution to the research on bilingual specialized dictionaries, since, to the best of the author's knowledge, no study on specialized English-Croatian or Croatian-English business dictionary has yet been conducted.

The following part of the paper is devoted to the methodology applied in the analysis.

Methodology

In this section, the framework used and the methodology of the research are explained. The analysis of dictionary entries is based on Pearsons and Nichols's (2013) and Lew and Szarowska's (2017) frameworks for monolingual and bilingual English dictionaries, as well as on Nesi's framework (1996), who studied the treatment of collocation groups in learner dictionaries.

Pearsons and Nichols (2013) and Lew and Szarowska (2017) suggested four areas within the framework: coverage and treatment of lexical items in entries, access to lexical information, and presentation of lexicographic data. Although these two frameworks were developed for online dictionaries, they can also be used for print dictionaries. Coverage and treatment are medium-independent, i.e. they apply equally to print and digital dictionaries. Access and presentation are areas that work differently for print and digital dictionaries, but are nonetheless indispensable elements in any dictionary, print or digital.

The framework for evaluating two pairs of printed bilingual business English dictionaries includes:

1. Coverage refers to whether a given item is present in a dictionary.
2. Treatment includes: a) the presence of labels for level of use, regional variety, part of speech, b) the field in which the words are used, c) cross-references, d) pronunciation indication, e) example sentences, f) additional information on usage, synonyms, antonyms, word origins and related words and phrases, f) grammar information including irregular verb forms, countability of nouns, comparative and superlative forms of irregular adjectives, and g) multi-word expressions with a special emphasis on collocations.
3. Access includes headword identification with access to inflected forms and misspelled words, to multi-word expressions, etc.
4. Presentation criteria include the presence of pictorial illustrations, a consistent entry form, the full names of grammatical codes and symbols in the user's mother tongue, the use of bold type other than in the headword or equivalent and no intrusive advertisements (adapted from Lew & Szarowska 2017: 6-8, Pearsons & Nichols 2013: 202-207).

With regard to criteria, it is also indispensable to consider who the intended user is (e.g. scholars, (non)native speakers (adults or children), learners (advanced, intermediate, or beginner students; business students, etc.).

Nesi (1996) analysed a range of monolingual British English learners' dictionaries and identified a total of eight approaches used by lexicographers in the treatment of collocations (quoted in Laufer 2011: 32). According to Nesi (1996), the collocational group can be given the headword status, can be listed as a subentry, can be defined within the main entry, the collocational range can be given in the definition, typical collocates can be printed in dark type within examples or can occur within examples, collocates can be grouped in boxes or sections outside the entry.

The analysis of dictionaries presented in the following paragraphs is based on the framework presented above for the elements included in dictionary entries and for the representation of collocations in dictionary entries.

Nouns were chosen for the analysis based on previous research. Hausmann (1989: 228) recommends entering collocations in a dictionary under their base form, which is usually a noun. Namely, when constructing a text, the speaker usually starts from the noun(s) and then proceeds to the verb and adjective. Previous research (e.g. Bogaards 1999) has not confirmed beyond doubt that the speakers look up the base first rather than the collocate, or that they look up a noun first when looking up a collocation, but rather a word that they recognize slightly preferring the noun (e.g. Walker 2009: 293). Nevertheless, we believe that the noun is the bearer of meaning and that any dictionary analysis should start from the noun, since texts are usually produced starting from the noun and proceeding to the verb. Thus, from the point of view of text production, in which the problem with collocations lies, collocations can be seen to be built up hierarchically. Moreover, research on collocation dictionaries has shown that these dictionaries are dominated by noun entries (Walker 2009: 297), that noun entries are generally the richest in collocations and that most dictionary entries actually concern nouns (Klotz 2003: 57) most collocations included in the entries in learner dictionaries were chosen in order to exemplify aspects of the definition of the headword (Walker 2009: 287),

Bearing the above in mind, the dictionary entries of selected nouns in selected bilingual dictionaries are first analysed to determine the representation of collocations in the entries. This is followed by a critical quantitative and qualitative analysis of the representation.

This paper analyses only noun collocations in which the base is a noun and the collocate is an adjective or a noun (in the function of an adjective). The analysis includes the 50 most common nouns covered in the basic literature for teaching business English in higher education, since students are future professionals who will use English in business communication. British business English course books, which are the starting point for the quantitative and qualitative dictionary analysis, include a glossary or word list, hereinafter referred jointly by the term glossary, that serve as a guide to students as they list words they should learn. In determining the words to be analyzed, glossaries from the following business English course books were used: *Business Partner* (B1, B1+ and B2[8], from 2018 and 2019, published by Pearson), *Business Result* (Pre-Intermediate, Intermediate, Upper-Intermediate from 2017, published by Oxford University Press) and *Market Leader* (Pre-Intermediate, Intermediate, Upper-Intermediate from 2012, 2010, 2011, published by Pearson Longman). The course books were chosen as they are commonly used at higher education institutions in Croatia where business English is taught to non-native speakers of English who will use English in their work in the future. Furthermore, the course books were written and published by renowned British publishers with a long tradition in providing ELT and ESP teaching materials.

First, all one-word nouns were taken from the nine glossaries and then sorted according to the frequency of their occurrence in the glossaries. For the analysis, 50 English nouns that occur most frequently in the glossaries were selected and listed alphabetically. The words used for the analysis are: 8: *budget*; 7: *contract; supplier; turnover*; 6: *brand; commission; discount; demand; incentive; investment; invoice; loan; negotiation; profit; promotion; qualification; revenue; skill; strategy; target; trend*; 5: *agenda; bonus; consultant; consumer; customer; deadline; development; expertise; growth; income; policy; product; productivity*; *retail; salary; share; shareholder; staff; value*; 4: *asset; credit; delivery; finance; investor; performance; sales*; 3: *market; service*; 1: *company*[9] (The number indicates how many of the nine glossaries the word occurs in[10]).

[8] Levels B1, B1+, and B2 are modern designations for levels of language proficiency according to the Common European Framework of Reference for Languages (Council of Europe 2006: 32), which have replaced the now obsolete designations Pre-intermediate, Intermediate, and Upper-intermediate.

[9] The translations of the entries into Croatian are: 8: *budžet, proračun;* 7: *ugovor; dobavljač; obrtaj, promet;* 6*: marka, trgovački znak, brend; provizija, pristojba; komisija; diskont, popust, rabat; potražnja; poticaj, stimulans; investicija, ulaganje; faktura, račun; zajam, kredit; pregovori; produktivnost, proizvodnost; promocija, promidžba; kvalifikacija; prihod; vještina; strategija; cilj; trend;* 5*: dnevni red; prioriteti; bonus, dodatak, premija, nagrada; konzultant, savjetnik; potrošač, kupac; kupac, potrošač; rok; razvoj; ekspertiza, stručnost; rast; dohodak; dobit; prihod; politika; proizvod; produktivnost, proizvodnost; trgovina na malo,*

Fifty English nouns are first analyzed in English-Croatian business dictionaries, since the source language is English. Then, their Croatian equivalents are analyzed in Croatian-English business dictionaries. The same nouns were used for a more systematic comparative analysis in bilingual dictionaries where the source and translation languages are English and Croatian. Since nouns in one language do not have only one equivalent in another language, several translation equivalents in Croatian were analyzed. The entries in the dictionaries are also compared against the framework provided in this section.

The bilingual business dictionaries included in the analysis are: *English-Croatian Economic Dictionary* (2nd revised edition) by Ante Babić (ECED), *English-Croatian Dictionary of Business and Economics* (ECBD) by Višnja Špiljak, *Croatian-English Economic Dictionary* (*2nd revised edition*) by Ante Babić (CEED) and *Croatian-English Dictionary of Business and Economic*s (ECDBE) by Višnja Špiljak. The dictionaries listed were chosen because they are pairs of dictionaries that are similar in scope and size, are the most recent bilingual business dictionaries with English and Croatian as source and target languages, and the editors of the pairs are the same.

The results of dictionary analysis

This section is devoted to the presentation of the results of dictionary analysis.

Englesko-hrvatski ekonomski rječnik; English-Croatian Economic Dictionary (2nd revised edition) (ECED), edited by Ante Babić, is the result of the work of economic experts united in the publishing house MATE, which specializes in the translation of relevant world literature in the fields of economics, management and related areas.

In ECED, the entry consists of eight parts: English term, reference-field, reference-subfield, Croatian term, explanation in Croatian, explanation in English, geography[11]. Not all entries consist of all 8 parts. Table 1 shows some examples of entries without English explanations and geography, because they are not part of the displayed entries.

Table 1. Examples of entries in ECED

ENGLISH TERM	REFERENCE-FIELD	REFERENCE-SUBFIELD	CROATIAN TERM	EXPLANATION IN CROATIAN
Budget	makro; posl.	fisk.; financ.	1. budžet; 2. proračun; državni budžet, državni proračun	1. novčani plan za neko razdoblje; 2. blagajna ili račun s kojeg se ostvaruje taj plan; 3. najčešće se misli na državni budžet i državni proračun
				(ECED: 144-145)
Discount	posl.		diskont, popust	
				(ECED: 302-303)
Income	mikro, makro		dohodak	Općenito predstavlja tijek novca ili roba koji dotječe pojedincu, grupi

maloprodaja; plaća; dionica; udio; dioničar; osoblje, službenici, zaposlenici, namještenici, radnici; vrijednost; 4: *imovina; sredstvo; aktiva; kredit; doprema, dostava, isporuka; novac, financije; ulagač, investitor; uspješnost, rezultat, performansa; prodaja;* 3: *servis; usluga; tržište, trgovina; burza;* 1: *poduzeće, tvrtka, društvo, kompanija.*

[10] All data generated during the study are available on request.

[11] The parts of the entry are only listed in Croatian and were translated by the author of the paper. NOTE: Geography states the difference between British and American English.

ENGLISH TERM	REFERENCE-FIELD	REFERENCE-SUBFIELD	CROATIAN TERM	EXPLANATION IN CROATIAN
				pojedinaca, poduzeću ili privredi tijekom određenog vremena. Dobit kod poduzeća u SAD-u.
				(ECED: 516-517)
Investment (I)	makro		investicija (I)	(1) Ekonomska aktivnost koja žrtvuje današnju potrošnju imajući u vidu povećanje proizvodnje u budućnosti. Investicije mogu biti u opipljivi (stvarni) kapital (zgrade, opremu i zalihe) i u neopipljive investicije (Obrazovanje ili "ljudski kapital", istraživanje i razvoj te zdravstvo). Neto investicija je vrijednost ukupne investicije nakon što su se odvojila sredstva za amortizaciju. Bruto investicije su investicije bez odvajanja za amortizaciju. (2) U financijskom smislu, investicija ima sveukupno drugačije značenje i označuje kupovanje vrijednosnih papira, poput dionica ili obveznica.
				(ECED: 554-555)
Loan	makro	monet.	kredit, zajam	
				(ECED: 594-595)
Salary	makro	ek. rada	plaća	
				(ECED: 824-825)

Out of the 50 analyzed nouns, the nouns *consultant, expertise, incentive, policy, qualification, staff, target*, are not a dictionary entry in the ECED, and the nouns *negotiation* and *service* are listed only in the plural. There is no information about collocations under any entry in the dictionary. The entries in this dictionary do not contain typical dictionary information, such as part of speech or pronunciation. There are no examples of usage in context. All entries are capitalized, which may lead the user to believe that English nouns are capitalized, which is incorrect. Different meanings are numbered, e.g., "Skill - 1.vještina; 2.sposobnost; 3. znanje" (ECED: 844-845). Synonymous meanings are separated by a semicolon, e.g., "Promotion - promocija, promidžba" (ECED: 766-767). However, the explanations in Croatian are inconsistent with translation equivalents, e.g., "Budget - 1. budžet; 2. proračun; državni budžet, državni proračun. - 1. novčani plan za neko razdoblje; 2. blagajna ili račun s kojeg se ostvaruje taj plan; 3. najčešće se misli na državni budžet i državni proračun" (ECED: 144-145).

The analysis of the selected entries indicates that the dictionary can be used as an encyclopedic manual by economists and business people, by students and teachers at business schools in Croatia and by any business professional who comes into contact with economic terms on a daily basis and needs to place a noun in a broader context of economic sciences (ECED: 6).

Englesko-hrvatski poslovni rječnik. English-Croatian Dictionary of Business and Economics (ECDBE), edited by Višnja Špiljak, includes 40,000 entries from the fields of economic theory and policy, economics and public finance, banking, insurance, accounting, auditing, organization, management, marketing, trade, international finance, stock market transactions, transportation, tourism, business law, statistics, mathematics, operations research, and computer science (ECDBE: 7). The dictionary is written for business professionals, students and teachers at the faculties of business and economics, and translators.

All 50 analyzed nouns are entries in the ECDBE. There are no collocations for any of the analyzed nouns. There is no information about the part of speech, pronunciation, origin, etc. Every entry consists of two parts: the English headword and the translation(s) into Croatian, e.g., “investment investicija, plasman, plasman novca, ulaganje “(ECDBE: 328). Different meanings of each entry are numbered, e.g., "promotion - 1. *napredovanje, unapređenje, promaknuće* 2. *promocija, promotivne aktivnosti* “. Very similar and close meanings are separated by a semicolon, e.g., "income - *dohodak*; *dobit*; *prihod*" (ECDBE: 299), while synonymous meanings are separated by a comma, e.g., "budget - *proračun, budžet, financijski plan*" (ECDBE: 77). The entries also sometimes include a brief explanation in brackets, e.g., "salary - *osobni dohodak, plaća* (*mjesečna ili godišnja za razliku od nadnice*)" (ECDBE: 550).

Hrvatsko-engleski ekonomski rječnik; Croatian-English Economic Dictionary **(CEED)** (2nd revised edition)[12], edited by Ante Babić, was compiled in parallel with the *English-Croatian Economic Dictionary* of the same editor. This dictionary is also the result of the work of economic experts gathered around the publishing house MATE. The general description of this dictionary given in the preface and the information on the division into fields and subfields do not differ from the preface and the information in the ECED by the same editor and are not repeated here.

In CEED, the entry consists of the following eight sections: Croatian term, reference-field, reference-subfield, English term, explanation in English, explanation in Croatian, geography. Table 2 shows some examples of entries.[13]

Table 2. Examples of entries in CEED

CROATIAN TERM	REFERENCE-FIELD	REFERENCE-SUBFIELD	ENGLISH TERM
budžet	makro; posl.	fisk.; financ.	Budget
			(CEED: 84-85)
proračun	makro; posl.	fisk.; financ.	Budget
			(CEED: 706-707)
kredit	posl.		Credit
			(CEED: 366-367)
plaća	makro	ek. rada	Salary
			(CEED: 584-585)
promocija, promidžba	posl.	financ.	Promotion
			(CEED: 704-705)

Out of the 50 analyzed nouns, the nouns: *konzultant, savjetnik* ‘consultant’*, rok* ‘deadline’, *ekspertiza* ‘expertise’, *kvalifikacija* ‘qualification’, *politika* ‘policy’, *poticaj*, which in CEED is not an incentive but a "bounty" are not a dictionary entry and the nouns " *pregovor* ‘negotiation’ " and *usluga* ‘service’ are listed only in the plural.

All analysed entries consist of a noun in Croatian and a translation in English, e.g. ,“*budžet* - makro; posl. - fisk.; financ. - Budget” (CEED: 84-85). Additional information on the (sub)field(s) to which the

[12] Although both ECED and CEED are bilingual dictionaries, the respective original titles were in Croatian only. Therefore, the respective 1st edition titles of the two dictionaries, which were in both English and Croatian, were used in this paper.
[13] The parts of the entry are listed only in Croatian and were translated by the author of the paper.

noun belongs is provided. The entries in this dictionary do not contain grammatical information, e.g., information on the part of speech or gender of a noun. None of the entries contain information about collocations. Some entries also contain additional explanations in Croatian, e.g., "*obrtaj - promet* - Turnover - *opseg poslovanja nekog trgovačkog društva, iskazan u računu dobiti i gubitka*." (CEED: 516-517). All Croatian nouns are written with a lowercase initial letter, but English nouns are written with the first capital letter, which may mislead the user into thinking that nouns in English are written with a capital letter.

In addition, there is an obvious lack of logic in this dictionary and a clear inconsistency in the order of Croatian headwords, illustrated by the examples in Table 3. If the authors decided to use the alphabetical order of the headwords, it is unclear why, for example, the noun *popust* is listed under the headword *diskont*, because it is not to be expected that the user will look for the noun *popust* under the letter *d*, i.e., under the headword *diskont*. Although the Croatian nouns are synonyms, this way of structuring the dictionary is confusing, impractical and illogical for the user.

Table 3. Examples of inconsistencies in CEED

CROATIAN TERM	REFERENCE-FIELD	REFERENCE-SUBFIELD	ENGLISH TERM
diskont, popust	posl.		Discount
			(CEED: 128-129)
popust, trgovački popust, rabat, gotovinski popust	posl.	financ.	Trade discount
			(CEED: 614-615)
rabat, popust	posl.	financ.	Rabate
			(CEED: 718-719)

Comparing the introductions of ECED and CEED, we find that the dictionary was created as a result of work on the translation of business and economic literature. CEED is a mirrored ECED dictionary and does not follow the lexicographic conventions in creating a dictionary entry as previously explained.

Hrvatsko-engleski poslovni rječnik. Croatian-English Dictionary of Business and Economics **(CEDBE)**, edited by Višnja Špiljak, includes a total of 46,000 entries from the fields of "economics and public finance, accounting and auditing, insurance and reinsurance, banking, business law, commerce, transportation, marketing, tourism, statistics, mathematics, operations research, computer science, economic theory and policy, general economics" (CEDBE: 7). The entries are arranged alphabetically, and the author adds in the preface that "collocations formed from basic terms" are also arranged alphabetically (CEDBE: 7), but it is not defined what the authors consider collocations. However, analysis of the dictionary suggests that MWT are considered collocations.

The basic structure of the entry is the headword, i.e., the Croatian noun on the left side of the entry and the English equivalent(s) on the right side. Different meanings are numbered, e.g., "promocija - 1. promotion (*mark.*) 2. graduation ceremony, (*američka sveučilišta*) commencement, conferement of a degree", (CEDBE: 471) with additional explanations in brackets. In some entries, additional explanations to the meaning are also in brackets, e.g., "vještina - skill, skillfulness; (*sposobnost*) competence, capability; (*spretnost*) dexterity; (*okretnost*) adroitness, talent, knack; (*umijeće*) art, accomplishment. " (CEDBE: 656) Similar meanings are separated by semicolons, e.g., "promet - turnover; net sales, sales result; (*promet*) traffic; (*kolanje*) circulation (CEDBE: 470) and synonymous ones by a comma, e.g., “budžet - budget, financial budget”(CEDBE: 41).

Some entries also include additional grammatical information, as considered necessary by the authors/ the editor, e.g., the irregular plural of the noun "*polica* - shelf (pl. shelves)" (CEDBE: 384) or the encyclopedic information "*jard* - yard (0.914 m)" (CEDBE: 165). In CEDBE, it is also indicated whether the English translation is formal or informal, e.g., "*izvršni korak* - execute step (*inf*.)" (CEDBE: 164), whether it is colloquial, e.g., "*zanimanje* (zvanje) - occupation, vocation; proffession[14]; (*kol*) calling" (CEDBE: 679), and whether it is figurative, "*odlediti* (*i fig*.) - unfreeze" (CEDBE: 313). Differences between American and British English are also listed, whether in spelling, e.g., "*odaslati robu* - consign, (*brit*.) despatch, (*am*.) dispatch, ship, ship off" (CEDBE: 310) or when different words are used in British and American English, e.g., "*ministar financija* - finance minister, (SAD) Secretary of the Treasury, (UK) Chancellor of the Exchequer" (CEDBE: 239) or "*ministar trgovine* - minister of trade, President of the Board of Trade (UK), Secretary of Commerce (SAD)" (CEDBE: 239).

All 50 analyzed nouns are included in the CEDBE, but collocations are not listed in any of the entries. However, if we refer to the preface that collocations formed from basic terms are also arranged alphabetically (CEDBE: 7), we can conclude that MWEs have the status of collocations and are listed as separate entries. If the first word is the base of the collocation, then it is easy for the user to find the collocation as these MWEs are arranged alphabetically in the dictionary as the following examples show:

income dohodak; dobit; prihod
income account račun dobiti; račun dohotka
income allocation raspoređivanje dobiti
income-based price dohodovna cijena
income bonds dohodovne obveznice

(CEDBE: 37)

However, if the user knows the base but is unsure of the collocate, he will not be able to find the correct collocation as it will be listed alphabetically, as illustrated below.

accrued income nastali dohodak, obračunati dohodak, obračunati prihod, obračunata dobit.

(CEDBE: 17)

earned income dohodak iz rada, dohodak od rada, zarađena dobit, zarađeni dohodak

(CEDBE: 198)

fixed income fiksni dohodak; renta

(CEDBE: 243)

The examples from CEDBE illustrate the fine line that exists between collocations and MWT in business English. They also challenge the existing macro and micro structure of bilingual LSP dictionaries, because although lexicographers and other language experts are aware of the differences between collocations and MWT, it is advisable not to follow these distinctions blindly in order to make dictionaries more user- friendly.

Discussion and direction for future research

Initially, the analysis was planned as a dual analysis, i.e., quantitative and qualitative, the former aimed at finding out how many entries included collocations and the latter aimed at finding out how these collocations were represented. The analysis was, however, only quantitative, as no entries included collocations. Nonetheless, the quantitative analysis of selected English-Croatian and Croatian-English business dictionaries provided an answer to the research question by revealing that the only collocations included in the dictionary are those which are structurally similar to MWTs. It was also

[14] The typographic error is in the dictionary.

revealed that the entries in these dictionaries do not provide additional information about words beyond translation equivalents. It should be stated that although grammatical information, differences between American and British English, or brief explanations are occasionally included in the entries, this is not consistently done for all entries and can, therefore, be considered the exception rather than the rule.

Although each of the analyzed dictionaries has a large number of individual entries, i.e. ECED and CEED 10,000 each, ECDBE 40,000 and CEDBE 46,000, the information within the entries are rather limited and consistently include only translation(s) into the target language. The translation equivalents are clearly presented and numbered. Synonymous equivalents are separated by a comma and similar non-synonymous meanings are separated by a semicolon, which increases the clarity of the entries.

Dictionary analysis confirmed that significant changes need to be made to the existing bilingual LSP dictionaries. One path is to write completely new dictionaries and the other path is to improve the existing ones. The latter path is more time-efficient as these dictionaries already contain systematically organized information on words. In addition, information on words in existing dictionaries do not become obsolete overnight. However, it is necessary to monitor the use of words to determine whether a particular word or meaning has disappeared, changed, or a new meaning of a word has emerged. It is also important to ensure that errors from the existing dictionaries are not repeated.

Further steps that need to be taken before a new dictionary is written is the compilation of a (parallel and/or comparable) corpora of business English and business Croatian. Both corpora would be used not only to extract collocations in the respective languages, but would also provide example sentences for headwords and collocations. Corpora information would also reveal changes in meanings of existing words and introductions of new words into the language of business.

A new business dictionary should be a digital dictionary as it would allow the inclusion of more information in an entry, such as pronunciation, both transcribed and as an audio recording, grammatical information, e.g., part of speech, information about whether the noun is countable or uncountable and/or has an irregular plural form, but also sub senses, derived words, examples from both the written and spoken corpora for both headwords and for collocations. A digital dictionary may also include various word games, quizzes, a word of the day, lists of words to learn the target language, pictures to illustrate the meaning of the headword, CEFR level markers, definitions adapted to children and/or language learners, examples from both written and spoken corpora, which could also be presented as audio recording(s), and a quick access to the definitions of unknown words within the definition of the initially looked up word. Different meanings and different collocations could be illustrated with example sentences taken from the corpora.

Research limitations and the conclusion

The main research limitations are as follows. All four dictionaries are paper dictionaries, which is not in line with the contemporary and modern lexicographic tradition where dictionaries are available in a digital format, be it an application or a website. This limits particularly the microstructure of the dictionary and certain elements that can be considered standard dictionary elements are not included in the entries, e.g., pronunciation, singular/plural forms, gender, etc. All fifty words analyzed are nouns, since nouns are considered to carry the meaning, while future analyses should also include verbs and adjectives.

Dictionary analysis included four bilingual business dictionaries with English and Croatian as target and/or source languages. The pairs of dictionaries were compiled by the same editors, so both the macro and the micro structure of the pairs of dictionaries are the same. This means that all the limits are repeated in each of the dictionaries within the pair. The analyzed dictionaries are the most contemporary dictionaries of this size, of these language pairs and of the field they cover, they are still more than 10 years old and would need to be updated with new words and/or new meanings of the existing words.

All four dictionaries were written within the same lexicographic tradition, namely Croatian. Further analysis should include monolingual business English dictionaries so as to learn from different lexicographic traditions. In the case of business English, the analysis should include both British and American monolingual dictionaries in order to compare two approaches to dictionary writing and use the results when compiling a new bilingual Croatian-English and English-Croatian business dictionary.

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The analysis of graduate students' use of transition markers

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Abstract
Transition markers are used in academic writing to indicate enumeration and addition, summation, apposition, result, inference, contrast, and transition. These markers, including both conjunctions and adverbial phrases, should be used by students in their theses in order to improve cohesion and reader comprehension. This study examines graduate students' L2 English writing and provides examples of how students use transition markers, aiming at researching whether L2 English writers overuse/underuse transition markers in relation to L1 English graduate students' writing. The comparison is made between the corpus of theses written by Croatian students (121,170 words) and Serbian students (255,451 words), highlighting the frequency and appropriateness of the use of transition markers, as well as providing examples of over- and under-usage. Results will indicate that the overuse of markers in the Serbian corpus is due to the lengthier MA theses. In contrast, the underuse of markers in the Croatian corpus may be due to students lacking register awareness.

Keywords: *discourse marker overuse, discourse marker underuse, metadiscourse, transition markers, MA student theses*

Introduction

In literature, the terms transition markers (Hyland 2005), linking adverbials (Biber et al. 1999, Peacock 2010), linking adjuncts (Richards & Schmidt 2010), conjunctive adjuncts (Gardezi & Nesi 2009), connectors (Intaraprawat & Steffensen 1995), logical markers (Mur Dueñas 2009), linkers (Thornbury 2006) or linking words (Harrison, Jakeman & Paterson 2016) all refer to single words or multi-word units that can improve textual cohesion and facilitate reader's comprehension in diverse academic genres. Transition markers, such as *however, nevertheless, in other words*, etc., help the writer organize the discourse and engage with the text (Hyland 2005), simultaneously helping the reader navigate through the discourse and the writer's ideas. In order to provide a coherent discourse, one should understand their meaning and learn their usage patterns (Yin 2016).

Nevertheless, the use of transition markers does not come easy. They may pose a challenge for students both as L2 English learners and as novice writers (e.g. Walková 2020), resulting in the overuse, underuse, or misuse of transitions (Lei 2012). These problems may be associated with their language and relate to either L1 transfer (e.g. Granger & Tyson 1996) or their interlanguage (e.g. Narita, Sato & Sugiura 2004), while the overuse or underuse of transition markers may be the result of lacking disciplinary knowledge (Shaw 2009) or related to unsuitable teaching practices due to inappropriate teaching material (e.g. Lei 2012, Walková 2020). The analysis of graduate students' writing, therefore, can provide information on the appropriateness and frequency of transition markers. From the students' perspective, this may especially be significant to L2 English graduate writers in order to improve their writing before they enter academia and publishing process. From a pedagogical perspective, the results can help identify specific areas where EFL learners struggle and develop targeted interventions to help improve their writing skills. Additionally, comparing the use of transition markers between L2 English learners and L1 novice writers can provide insights into the differences in writing conventions between languages and cultures, which can inform teaching practices and curriculum development. The results will indicate that, apart from the reasons already mentioned in the literature, the inappropriate use and frequency may be also attributed to the lack of register awareness.

Theoretical background

Transition markers in this paper are considered metadiscourse markers following Hyland's model (2005). These devices help the reader in interpreting links between ideas and demonstrate three types of semantic relations: addition (*furthermore, moreover*), comparison and contrast (*in contrast, likewise*), and consequence (*thus, therefore*). Transition markers are very frequent in academic writing, though there is a difference in the frequency depending on the genre (e.g. Hyland 2005, Gardner & Chen 2018). These markers may have a variety of forms, and can include adverbials (*nevertheless*) and conjunctions (*although*). Conjunctions are the ones that have syntactic linking functions together with the semantic function, and they cannot draw their semantic links above the clause level (Liu 2008). The distinction is important, especially the fact that adverbials are the ones that can be moved to a non-initial position for the rhetoric effect (Gardner & Han 2018). Transition markers are devices with varying lengths, and can be one word (*moreover*) but also a multi-word marker (*on the other hand*); for that reason, it is important to consider them as items/tokens when regarding frequency. Transition markers are not always metadiscursive (Hyland 2017), and can have some other functions, like being modifiers (*however*).

L2 writers, even after being taught about academic writing, continue to make a number of mistakes in using transitions. A number of problems student writers may have with transition markers are related to their accuracy and appropriacy. The most common ones include the use of informal and conversational words and phrases in academic texts (e.g. Garner 2013, Liu 2008) and the reliance on the more familiar transitions rather than using new-learnt ones (Cotos 2014). Garner's (2013) study revealed that students do not produce register-appropriate forms of linking adverbials, which was confirmed by Larsen-Walker (2017) as well, though on a small sample. Students may use transition markers to draw logical links between incoherent ideas (Chen 2006), to misuse transition markers with the wrong semantics (Gardner & Han 2018), or with a slightly changed meaning (Gardner & Han 2018). The problem may also occur in misusing transition markers in the initial position (Granger & Tyson 1996). Additionally, the problem may be that students had learnt a bulk of transition markers in secondary level education and just continue using these same markers in higher education writing assignments as well (Leedham & Cai 2013).

Research suggests that L1 and L2 student writers overuse transition markers when compared to L1 and L2 expert writers (e.g. Chen 2006, Lei 2012, Shaw 2009). Likewise, research suggests that L2 student English writers overuse transition markers in comparison to L1 student English writers (Tapper 2005). Even though Walková (2020) challenges these and similar results due to the usage of similar and overlapping yet different concepts, set frequency count, as well as the comparison between student and expert writing, the author still acknowledges that there are some studies (e.g. Sultan 2011, Tapper 2005) that matched the genre and level of proficiency and still obtained the same results of overuse of transition markers in L2 English writing in comparison with L1 English writing. In order to compare two corpora, it is not only crucial to have the same-level writing (comparing only student writing or only expert writing in L1 and L2), but it is also important to compare transition markers in the same genre, since studies demonstrate that transition markers have different frequency in relation to the genre.

Hyland (2005) found transition markers to be more frequent in textbooks than in research articles, while Gardner and Chen (2018) found a larger frequency of transition markers in argumentative essays than in descriptive methodology sections. Chen (2006) and Lei (2012) also use their quantitative analyses to demonstrate that L2 English writers have the tendency to overuse transition markers. In an interesting analysis, Mirović and Bogdanović (2016) investigated the same writers writing about similar topics in L1 Serbian and L2 English, and found that the same writers overuse transition markers when writing in L2 English in comparison to L1 Serbian. Some researchers believe that the abundance of transition markers is unnecessary and impairs the quality of a given text (Lei 20212, Walková 2020). On the other hand, there are researchers who concluded that the overuse in student writing may be related to students' need to be explicit and follow the genre, which does not negatively affect their writing (Gardner & Han 2018). Mirović and Bogdanović (2016) also claimed that the overuse was related to how writers perceive academic genre. In other words, if they personally believe a certain genre or academic community writing places high significance on the use of transition markers, they would be keen on overusing them. To the best of our knowledge, there are no research studies comparing the use of transition markers by two corpora written by L2 student English writers with L1 Serbian and L1 Croatian, i.e. students with diverse backgrounds and similar education in academic writing. The studies usually investigate the difference between L1 and L2 English (e.g. Sultan 2011, Tapper 2005, Bogdanović & Topalov 2022). This research investigates the use of transition markers in master's theses by graduate students from Serbia and Croatia writing in English on linguistics and applied linguistics topics, comparing their frequency and appropriateness, and focusing on some typical, on the one side, and unusual and unexpected examples, on the other.

Methodology

Data corpus

The research was conducted on a corpus of unpublished master's theses written by L1 student writers from the United Kingdom (University of Birmingham, University of York and University of Edinburgh) and the United States (Brigham Young University, City University of New York, University of California, University of North Dakota and Portland State University), and L2 student writers from Serbia (Faculty of Philosophy, University of Novi Sad) and Croatia (Faculty of Humanities and Social Sciences, Josip Juraj Strossmayer University of Osijek). The corpus was composed of the *Discussion* chapters from the students' theses, with a total of 646,659 words across three sub-corpora[15] (see Table 1).

Table 1. The distribution of word counts across three sub-corpora

	Subcorpora of master's theses, chapter *Discussion*	**Word count**
1	Serbian corpus – Faculty of Philosophy, University of Novi Sad, Serbia	255,451
2	Croatian corpus – Faculty of Humanities and Social Sciences, Josip Juraj Strossmayer University of Osijek, Croatia	121,170
3	Universities from the United Kingdom and the United States	270,038

[15] The corpus used in the paper is a segment of a larger corpus obtained during the project entitled "Hedging, Stance and Engagement in novice EFL Researchers' Academic Writing". In total, the corpus included 43 theses from Serbian students and 42 theses from Croatian students, as well as 25 theses from the UK and 25 theses from the US universities, all written in the period 2010-2020. All theses had discussion sections and all were included in the research.

Overall, the corpus included 270,038 words written by native English speakers (L1 writers) and 376,621 written by non-native speakers (L2 writers).

The graduate papers by L2 student writers included the first drafts of their master's theses, before any modifications to the original texts suggested by their mentors. The master's theses by L1 writers included randomly selected unpublished theses publicly available in online repositories, with the caveat that both L1 and L2 theses were in the fields of linguistics or applied linguistics and were, thus, of comparable genres and topics. By comparing L2 student writers with L1 student writers (rather than L1 expert writers), this study further ensured that there was no 'genre mismatch', as proposed by Walková (2020). Finally, the investigation focused on the *Discussion* chapters of the documents, as these chapters are commonly the most complex sections of theses both structurally and conceptually (Bogdanović & Topalov 2022) and it was presumed that the density of ideas and length of the chapters will prompt student writers to use metadiscourse more frequently.

Throughout the most of the 1900s, Serbia and Croatia were united in a country with the same schooling system and academic institutions. Studies in the English language were established in both countries at the same time, and the Bologna principle was applied at the same time as well. Academic writing in English is taught in higher education institutions at the graduate cycle degree, following the current trends in the field. Hence, the use of L2 English by both L1 Serbian and L1 Croatian graduate students may be comparable, as already established in the literature (e.g. Podrug, Filipović & Stančić 2014, Varga, Kovačević & Molnar 2020).

Token identification

The unit of analysis, i.e. the token in this investigation was a single word (e.g. *nevertheless*) or a phrase (e.g. *at the same time*) representing a transition marker following Hyland's (2005) model. Syntactically, the tokens came in the form of subordinators (e.g. *since*), adverbial connectors (e.g. *however*, *consequently*, *by the way*) or certain clause-integrated expressions (e.g. *as a result, in the same way*) (see Tapper 2005, Winter 1977). The identification of tokens followed a two-step procedure. In the first step, the authors relied on Hyland's (2005) comprehensive list of transition markers in order to locate all of the instances of marker use in master's theses. Hyland's (2005) taxonomy was used since it already proved to be valid in this kind of comparison (Bogdanović & Topalov 2022). Using AntConc, a freeware corpus analysis toolkit, transition markers were extracted and prepared for analysis as they occurred in the theses. During the second step, the authors manually removed from the corpus those instances of targeted words and phrases that were not used for metadiscoursal purposes. In order to assure reliability of the coding process, before the collection of data, the authors attempted to establish clear criteria for what constitutes metadiscourse. More to the point, during the analysis, the authors independently assessed the data allowing for comparison of inter-rater agreement. While in the majority of cases the process of the manual removal of tokens that were not used for metadiscoursal purposes was fairly straightforward, in a few instances where there were discrepancies in the coding, it was necessary to discuss the examples and re-focus on the criteria so that the discrepancies could be resolved. Lastly, even though according to Hyland (2005) two additional transition markers should have been included in the analysis (*result in* and *the result is*), the different syntactic realization of these markers compared to all the other markers included in the analysis prompted their exclusion.

Statistical analysis

Absolute frequency was determined by marking down each appearance of an item in a corpus, following which relative frequencies were calculated per 100,000 words in order to enable a comparison of frequencies across sub-corpora. Assessment of statistical differences in frequency counts between L1 and L2 student writers was conducted by means of log-likelihood tests using the Log Likelihood Wizard by Paul Rayson (University Centre for Computer Corpus Research on Language, Lancaster University).

Results and discussion

Following the steps of token identification described above, the final corpus under investigation consisted of a total of 8192 uses of transition markers across all three sub-corpora (2985 transition markers used by L1 student writers and 5256 transition markers used by L2 student writers – 3580 uses by the Serbian subsample and 1676 by the Croatian subsample). The overall frequencies (absolute frequencies) and relative frequencies (per 100,000 words) for individual transition markers are shown in Table 2.

Table 2. The absolute and relative frequencies of transition markers across sub-corpora.

Transition marker	US/UK		SRB		CRO	
	AF	RF	AF	RF	AF	RF
accordingly	1	0.37	12	4.70	4	3.30
additionally	58	21.48	43	16.83	14	11.55
again	60	22.22	141	55.20	60	49.52
also	362	134.06	641	250.93	352	290.50
alternatively	3	1.11	3	1.17	0	0.00
although	170	62.95	151	59.11	76	62.72
as a consequence	4	1.48	3	1.17	0	0.00
as a result	14	5.18	12	4.70	1	0.83
at the same time	9	3.33	27	10.57	11	9.08
because	9	3.33	31	12.14	10	8.25
besides	2	0.74	4	1.57	3	2.48
by contrast	24	8.89	1	0.39	0	0.00
consequently	10	3.70	39	15.27	6	4.95
conversely	10	3.70	3	1.17	1	0.83
equally	30	11.11	29	11.35	27	22.28
even though	52	19.26	84	32.88	60	49.52
further	6	2.22	15	5.87	3	2.48
furthermore	75	27.77	75	29.36	57	47.04
hence	45	16.66	42	16.44	6	4.95
however	412	152.57	385	150.71	162	133.70
in addition	80	29.63	52	20.36	30	24.76
in contrast	52	19.26	16	6.26	6	4.95
in the same way	9	3.33	7	2.74	1	0.83
leads to	12	4.44	20	7.83	7	5.78
likewise	8	2.96	11	4.31	4	3.30
moreover	41	15.18	105	41.10	26	21.46
nevertheless	38	14.07	42	16.44	13	10.73

nonetheless	7	2.59	14	5.48	2	1.65
on the contrary	1	0.37	11	4.31	4	3.30
on the other hand	66	24.44	157	61.46	34	28.06
rather	187	69.25	122	47.76	55	45.39
similarly	61	22.59	53	20.75	17	14.03
since	120	44.44	180	70.46	166	137.00
so as to	8	2.96	10	3.91	4	3.30
still	56	20.74	133	52.06	100	82.53
thereby	31	11.48	7	2.74	2	1.65
therefore	152	56.29	227	88.86	85	70.15
though	117	43.33	24	9.40	14	11.55
thus	185	68.51	139	54.41	33	27.23
whereas	58	21.48	109	42.67	32	26.41
while	316	117.02	389	152.28	173	142.77
yet	16	5.93	0	0.00	14	11.55
TOTAL markers	2978	1105.39	3569	1401.44	1675	1383.18
AF – Absolute frequency; RF – Relative frequency per 100,000 words.						

The overall frequency results of this study support previous research findings according to which L2 English student writers overuse transition markers overall compared to L1 student writers (Bolton et al. 2002, Tapper 2005), and that, similarly, L2 English writers overuse most markers compared to L1 English writers (Sultan 2011).

In analyzing statistically significant results, Table 3 displays the comparison of the use of individual transition markers by L2 writers against the recorded use of markers by L1 writers. Compared to L1 student writers, both L2 student writers from Serbia and L2 student writers from Croatia statistically significantly overuse a total of ten transition markers. The reported Log-Likelihood coefficients range from slight overuse (*accordingly, at the same time, because* and *while* for the Croatian student writers) to highly noted overuse (*again, also*, *since* and *still* for both the Serbian and the Croatian sub-corpora and *even though* for the Croatian sub-corpus). In terms of the total volume of transition markers used by Serbian and Croatian student writers, there is also a highly pronounced overuse of markers found compared to L1 student writers.

Table 3. Statistically overused transition markers compared to English L1 student writers.

Item	SRB Log Likelihood	CRO Log Likelihood
accordingly	11.59***	5.11*
again	38.24****	18.77****
also	94.91*****	103.82****
at the same time	10.45***	4.93*
because	14.05***	3.84*
even though	9.48**	24.5****
on the contrary	10.32**	5.11*
since	15.64****	89.03****
still	36.72****	72.24****

while	12.17^{***}	4.33^{*}
TOTAL markers	92.10^{****}	52.73^{****}
$^{*}p<.05$, $^{**}p < .01$, $^{***}p < .001$, $^{****}p < .0001$		

Examples 1, 2 and 3 illustrate the typical use of transition markers found in L2 student writers' theses.
Example 1:

> **However**, even if less significantly than mastery-approach, mastery-avoidance was **still** in a negative correlation with the surface approach (and in a positive correlation with the deep approach), meaning that this orientation can **still** be more adaptive than performance goals, whose positive correlations to these approaches are to be discussed shortly. (NS S 20 RD[16])

Example 2:

> **Nevertheless**, it is apparent that **even though** the passive voice is not something unknown to the Serbian speakers, they **also** had some difficulty recognizing whether the sentences in the first section were in the active or in the passive voice. **Even though** there is a difference between the two test groups, we **still** have to take into account what Marchman, V. A., Martínez-Sussmann, C., & Dale, P. S. (2004) have discussed in their study about the nature of grammatical development. (NS BR 3 RD)

Example 3:

> Apart from those official bodies, the agentive function can **also** be assigned to people, namely the inhabitants of the United States, and such examples are mostly referred to elections as the citizens of the United States are those who elect the president of America. Even if the passive in such cases is mainly used because of the transparency of an agent, the sentences vary in focus. **In particular**, the first sentence tells about the situation in which the president is out of office for some specific reason and the period in between. **Accordingly**, it is important for the president to be chosen as soon as possible and the people are put aside. (NS BR 8 RD)

What can be observed from the examples is that L2 student writers, more often than not, place transition markers sentence-initially, which is in line with Aarts and Granger (1998) and Altenberg and Tapper (1998). All three examples also demonstrate the tendency of L2 writers towards a higher density of transition markers, which supports the conclusions of Bolton and associates (2002), Green and associates (2000), Milton and Tsang (1993), Shaw (2004), Shaw and Liu (1998), whereas a similar density has not been found in our sub-corpus of L1 writers. Interestingly, the examples also indicate the overuse of a small set of transition markers (*still* in the first example, *even though* in the second), suggesting invariability of the use of metadiscoursive elements by individual L2 student writers. If we consider the relative frequencies of the ten most frequently used transition markers among L1 and L2 student writers (Table 4), it is evident that, even though *also, while* and *however* are among the most popular choices in all three sub-corpora, L1 student writers not only use them significantly less frequently, as demonstrated by the relative frequencies of markers, but also display overall greater variability in transition marker use, as demonstrated by the overall percentages. L2 student writers, on the other

[16] The corpus used in the paper is a segment of a larger corpus. While coding the parts of theses, the following codes were agreed upon: first two letters refer to the Serbian university of Novi Sad (NS), Croatian university in Osijek (OS), UK universities (UK) and US universities (US). Second code are initials of the project participant who first divided theses into sections. Third is the number of the thesis. Finally, last letters refer to the section of the thesis, which in this paper are all RD (discussion).

hand, tend to prefer a smaller set of connectors in their writing and rely more heavily on their use, a finding that accords with Chen (2006). It is also noteworthy to observe that the overuse of similar transition markers is common to some other cultures as well. For example, Martínez-Hernández (2022) discovers that Spanish undergraduate students overuse *because* and *also*, while the Han CH-EN corpus (Han & Gardner 2021) displays a great frequency of *however* and *since* by Chinese student writers.

Table 4. Ten most frequently used transition markers across subcorpora.

US/UK	RF	%	SRB	RF	%	CRO	RF	%
however	412	10.34	also	641	17.91	also	352	21.00
also	362	9.08	while	389	10.87	while	173	10.32
while	316	7.93	however	385	10.75	since	166	9.90
rather	187	4.69	therefore	227	6.34	however	162	9.67
thus	185	4.64	since	180	5.03	still	100	5.97
although	170	4.27	on the other hand	157	4.39	therefore	85	5.07
therefore	152	3.81	although	151	4.22	although	76	4.53
since	120	3.01	again	141	3.94	again	60	3.58
though	117	2.94	thus	139	3.88	even though	60	3.58
in addition	80	2.01	still	133	3.72	furthermore	57	3.40
RF – Relative frequency per 100,000 words; % of total transition markers in a sub-corpus.								

Compared to L1 student writers, both subsamples of L2 student writers underuse the transition markers in Table 5.

Table 5. Statistically underused transition markers compared to English L1 student writers.

Item	SRB Log Likelihood	CRO Log Likelihood
by contrast	25^{****}	17.79^{****}
in contrast	18.12^{****}	14.03^{***}
rather	10.4^{**}	8.15^{**}
thereby	15.07^{***}	12.58^{***}
though	61.76^{****}	30.5^{****}
thus	4.25^{*}	29.17^{****}
$^{*}p<.05$, $^{**}p < .01$, $^{***}p < .001$, $^{****}p < .0001$		

Of the statistically underused transition markers, four indicate concession and contrast (*by contrast, in contrast, rather* and *though*) and two indicate consequence (*thereby* and *thus*). Other studies also found similar use by L2 student writers, with adversative markers typically underused (Granger & Tyson 1996, Green et al. 2000, Milton & Tsang 1993). Shaw (2009) proposes that this could be explained by discourse tendencies among L2 student writers that primarily include listing and addition, rather than a tight argument structure. We also believe that the genre of master's theses, in particular its length, may be an overwhelming task for novice L2 writers, who then resort to addition in order to meet the demands in terms of quantity, resulting in the overuse of additive elements (see Table 3) and underuse of concessive, contrastive and consequence elements (see Table 5). This conclusion is congruent with Biber and associates (1999) and Gao (2016), who propose that, since contrastive transition markers signal concessive, i.e. complicated relationships between discourse units, they may prove difficult for learners to manipulate, which is why learners tend to avoid them.

It is also interesting that *even though* is overused, whereas *though* is underused, when both transition markers signal concession or contrast if used as conjunctions. The underuse of *though* may be due to it being (mistakenly) considered less formal by L2 English writers and to its additional function as an adverbial which can, unlike *even though*, appear in non-initial positions (Quirk et al. 1985). This might raise some confusion with respect to its use; hence, one can observe the students' reluctance to use it in their theses, as it has been found in this research.

Compared to L1 student writers, only Serbian student writers overuse the transition markers in Table 6, with *further* slightly overused and the other transition markers highly overused.

Table 6. Overused transition markers in the Serbian sub-corpus.

Item	SRB Log Likelihood
consequently	16.77^{****}
further	4.5^{*}
moreover	32.7^{****}
on the other hand	43.47^{****}
therefore	19.4^{****}
whereas	18.79^{****}
$^{*}p<.05$, $^{**}p < .01$, $^{***}p < .001$, $^{****}p < .0001$	

Examples that follow illustrate that Serbian writers use these markers both appropriately and inappropriately.

Example 4:

> Regardless of this interference by S3, M does not decide to withdraw but actually keeps talking until he asks the entire question and completes his turn. **<u>Consequently</u>**, M's refusal to simply yield the turn creates a brief overlap of 0.3s and leads S3 to yield instead and let M complete his question. (NS S 10 RD)

Example 5:

> The exclusion of certain groups in texts and pictures might imply that the excluded group is insignificant and it does not contribute to society. **<u>Consequently</u>**, it was found that a few texts in the selected textbooks display activities that involve minority or multiethnic groups as main characters, while majority male characters have dominant roles. (NS BR 13 RD)

In Example 4, *consequently* coherently joins the ideas from two sentences, indicating a logical link between the ideas, where the latter is the result, i.e. the consequence of the former. In Example 5 the logical connection of consequence between the ideas in the two sentences is tenuous at best, and it would appear that the writer is attempting to impose cohesive ties where no such ties exist.

Example 6:

> Nevertheless, although the T-test proved a statistically significant difference between the first and second-generation of Serbian-Americans in two places, the mean scores show that the second-generation respondents have higher beliefs on the future EV of the Serbian language than the first generation. **<u>Moreover</u>**, another set of question testing the Exo-Centric EV beliefs showed higher mean scores with the second-generation. (NS BR 1 RD)

Example 7:

> **<u>Moreover</u>**, not only are the numbers of strategic pauses the same, but also the filled pauses (30 by women and 30 by men). (NS S 10 RD)

The additive function of *moreover* evident in Example 6 is appropriately used as an element of cohesion, though it is worth noting that every single instance of the use of this transition marker among Serbian student writers is found sentence-initially, indicating invariability and, likely, inexperience and lack of familiarity with its potential sentence positions. While additives are normally not a problem area for L2 writers, as compared to markers of concession or inference (Carrell 1982), syntactic misuse is sometimes evident, as in Example 7.

Compared to L1 student writers, the results reveal that Croatian student writers specifically overuse *equally* and *furthermore* (see Table 7).

Table 7. Overused transition markers in the Croatian sub-corpus.

Item	**CRO Log Likelihood**
equally	6.67^{**}
furthermore	17.2^{****}
$^{*}p<.05$, $^{**}p < .01$, $^{***}p < .001$, $^{****}p < .0001$	

In addition to the statistically significant overuse of *furthermore*, a transition marker from the group of additive markers, and *equally*, marker from the group of appositive markers, which have, thus far, been found to be overused by L2 writers (Granger & Tyson 1996, Narita et al. 2004), a qualitative view at the examples of their use (Examples 8 and 9) again illustrates that L2 student writers typically place transition markers sentence initially – a finding that is corroborated by previous research (Aarts & Granger 1998, Altenberg & Tapper 1998).

Example 8:

> **<u>Furthermore</u>**, as the results in Table 6. confirm, there are no significant differences in the mean values among neither of the individual facets of self-regulation capacity for males and females. (OS V 7 RD)

Example 9:

> **<u>Furthermore</u>**, the difficulties the learners encounter while learning new vocabulary might reduce their self-efficacy in vocabulary learning, reduce effective self-regulation strategies and cause lack of vocabulary knowledge. (OS V 7 RD)

Turning to the transition markers that were underused by only one of the sub-corpora of L2 student writers, Table 8 indicates the underuse of markers among Serbian students, while Table 9 shows the markers underused by Croatian students specifically.

From Table 8, it is clear that, compared to L1 student writers, Serbian students slightly underuse *conversely* and *in addition*, whereas they highly underuse *yet.*

Table 8. Underused transition markers in the Serbian sub-corpus.

Item	**SRB Log Likelihood**
conversely	3.6^{*}
in addition	4.53^{*}
yet	21.3^{****}
$^{*}p<.05$, $^{**}p < .01$, $^{***}p < .001$, $^{****}p < .0001$	

If we are to consider that the underused markers all belong to different groups of linking adverbials, as proposed by Hyland (2005) – *conversely* is a marker of contrast, *in addition* is an additive marker and *yet* is a contrastive marker – the interpretation proposed earlier that there is a noted tendency of invariability of the use of metadiscoursive elements by individual L2 student writers (Chen 2006) gains further ground.

Croatian students, on the other hand, slightly underuse *additionally,* as well as the clause-integrated expression *as a result*, whereas they somewhat underuse *hence* (see Table 9).

Table 9. Underused transition markers in the Croatian sub-corpus.

Item	CRO Log Likelihood
additionally	4.88*
as a result	5.38*
hence	10.48**
*p<.05, **p < .01, ***p < .001, ****p < .0001	

The finding that three out of four markers underused by L2 Croatian writers are markers of result or inference, in light of previous research (Carrell 1982, Granger & Tyson 1996, Narita et al. 2004) and the tendencies noted thus far in this study, is not surprising.

Conclusion

Overall, the results reported here confirm many of the conclusions put forth by previous research on L2 English student writing from different language background. Of the most important is certainly the general overuse of transitive markers by L2 student writers both from Serbia and from Croatia compared to L1 student writers, which corroborates previous findings by Bolton and associates (2002), Field and Yip (1992), Leedham and Cai (2013), Lei (2012) and Narita and associates (2003) among others. While some attribute the overuse to students' efforts to superficially emulate the academic style (Crewe 1990, Gao 2016), others believe it can be ascribed to local conventions and preferences of individual teachers (Gardezi & Nesi 2009). The use of transitions may include misusing transition markers in initial position (Granger & Tyson 1996) or using informal and spoken transition markers in formal writing (Walková 2020). In particular, consistent with the literature (Elahi & Badaleh 2013, Granger & Tyson 1996, Lei 2012, Narita et al. 2004), this research has found the overuse of addition and underuse of contrast and result/inference. The examples of the use of transitive markers by L2 student writers further reveal a tendency towards higher density of markers, which also accords with previous research (Bolton et al. 2002, Green et al. 2000, Milton & Tsang 1993, Shaw 2004, Shaw & Liu 1998). A possible reason for this is the overwhelming number of ideas that need to be coherently elaborated over a relatively condensed word span (Bogdanović & Topalov 2022, Gardner & Han 2018, Shaw 2009), making the overuse and density in L2 student writing characteristic functions of student genres (Walková 2020).

The results obtained may attribute to a more detailed study on transition markers in academic writing courses, not only in Serbian and Croatian environments, but also in graduate students' writing in general. Since the results correspond to similar frequency of use in other cultures, the focus on overused and underused transition markers may improve students' writing, as well as their publishing possibilities. The study is valuable since it enriches the current descriptive panorama on metadiscourse use by students and experts in academic writing, and particularly on the use of transition markers, fundamental in academia to put forth specialized knowledge. As the results of this study accord with similar other studies conducted in different cultural contexts, it is possible that Serbian and Croatian student writers, much like their peers in Hong Kong (Bolton et al. 2002), mainland China (Field & Yip 1992, Han &

Gardner 2021, Leedham & Cai 2013, Lei 2012), Japan (Narita et al. 2003), Spain (Martínez-Hernández 2022) and Sweden (Tapper 2005) to name a few, have different conventions and expectations for the use of transition markers in writing. Understanding how cultural factors influence language use may be particularly important in a professional and academic setting where effective communication is essential. Since the existence of cultural biases in the use of transition markers may put writers from certain cultures at a disadvantage when they are attempting to write for Anglophone audiences, a timely inclusion of strategies designed to support L2 graduate writers may help address the points of differences and better prepare the students for their future writing tasks. As in similar smaller corpus studies, although the conclusions may be respectable for general observations, the research could benefit from a larger corpus, including theses from other universities in Serbia and Croatia, as well as more theses from the universities in the UK and US. The research could also benefit from investigating the teaching practices in the beforementioned universities, since the alterations in teaching may lead to broadening the metadiscoursive repertoires of graduate students, raising awareness of the importance of the variety of transition markers in academic discourse.

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LSP bilingual dictionary compilation: the role of translation stage in communicating the knowledge of different engineering disciplines

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Abstract
This case study attempts to highlight the translation stage, an important step in technical L2-L1 dictionary compilation. It aims to reveal the translation procedures employed by LSP compilers, relying on the distinction between the concepts of foreignization and domestication, known as Venuti's strategies, when searching for LSP dictionary equivalents. Two English-Serbian LSP dictionaries from different disciplines: the traditional one (mechanical engineering) and the new one (information technology) have been examined. Our hypothesis assumes that LSP dictionaries in traditional engineering disciplines primarily use domesticating (TL-oriented equivalent) translation procedures, whereas those in high-tech engineering disciplines tend to use foreignizing (SL-oriented equivalent) translation procedures. The results of the qualitative and quantitative analyses indicated the dominance of domesticating procedures in the bilingual English-Serbian Dictionary of Mechanical Engineering. In contrast, the appearance of foreignizing translation procedures was noticed in the Dictionary for Computer Terms. Hence, in the future, it seems that communicating technical knowledge in modern technical disciplines through LSP dictionaries will increasingly be facilitated by ready-made terms produced by foreignizing or SL-oriented translation procedures.

Keywords: *LSP bilingual L2-L1 dictionary, LSP dictionary equivalents, translation procedures, terms, equivalence relation, knowledge communication*

Introduction

Our time, as an age of science and technology, has imposed the need to make LSP bilingual dictionaries in which English, as the contemporary "lingua franca" of scientific and technological advances, is often the source language. Given the growing need for easier transfer of highly specialized technical knowledge, these reference texts are alternatively called specialized dictionaries, terminological dictionaries, and technical dictionaries or glossaries. Essentially, they are concerned with the terminology of a particular field consisting of selected specialized English terms and their equivalents in other languages. The increased demand for such dictionaries, which register data for scientific and technological developments, is connected to the practical needs of a global society oriented towards knowledge exchange and human welfare.

In terms of compiling such dictionaries, Nielsen (1994: 129-155) focuses on five stages of the lexicographic selection process:

1. method selection (how the data base was compiled, how and why lexical units in the lemma list were chosen; for example, a frequency-based selection method, one based on the frequency of occurrence)
2. field selection (actual subject or theme of the entire dictionary)
3. data selection (the process of selecting particular texts or units of linguistic data as the basis for a lexicographic project)

4. lemma selection from the source language corpus (total number of the existing words and phrases within the vocabulary of the selected LSP field/fields to be included in the dictionary)
5. equivalent selection from the target language data (however, it is not always possible to find equivalents for culture-bound expressions because of the cultural distance between languages).

The final stage, equivalent selection, is intended to provide communicative and functional information in the form of equivalents, indicating a link between the compilation of specialized dictionaries and translation. Briefly, finding proper equivalents is a central issue of debate in LSP lexicography because its main function is precise knowledge transfer. As the terminology of the bilingual technical-scientific dictionary is concerned with the relationship between particular scientific concepts and their language representations (i.e. word forms), LSP lexicographers are initially required to attain conceptual congruence between SL and TL terms and then use various translation procedures and strategies to precisely render the meanings of terms from the source language to the target language.

Equivalence relations in LSP dictionaries

Obviously, equivalence plays a pivotal role not only in the field of general bilingual dictionary compilation but also in the design of LSP dictionaries. Therefore, to satisfy the needs of the target users, any bilingual specialized dictionary should effectively treat equivalent relations. The most common types of equivalent relations identified in bilingual dictionaries, including specialized ones, are full equivalence, partial equivalence, and zero equivalence (Svensen 2009). Full equivalence or congruence is mainly employed in the science and technology domain when both lemma and its target language counterpart have identical meanings. In specialized lexicography, the principle of relevance explains that lexicographers must opt for full equivalence, because lexicographic structures should offer very precise meaning, not only because of the true nature of specialized discourse but also because redundancy ought to be dispelled from specialized texts (Fuertes-Olivera 2011: 107). On the other hand, partial equivalence, known as divergence, occurs when the word or expression in the target language does not have the same lexical meaning and/or grammatical category as the word in the source language, but can be used as a translation counterpart. In such cases, the equivalent paradigm for a certain lemma is primarily composed of more than one equivalent. Gouws (2002: 198) explains that there are two types of divergence: lexical divergence, which prevails when the lexicographer has to ascertain whether the translation equivalents are full or partial synonyms, and semantic divergence relating to situations in which the lemma sign represents a polysemous lexical item. According to Fisher (2014), in the case of partial equivalence, there is always the dilemma of whether to use a functional equivalent (if the similarity between the concepts is sufficiently high) or a translation equivalent (if the difference between two concepts is considered to be too great). However, in the case of lexical gaps, that is, when the target language lacks lexical items or expressions as equivalents for the source language items, this relation is called zero equivalence (Gouws 1999: 26). Lexical gaps frequently occur in the English-Serbian language pair within the technical-scientific domain because of the lower scientific development of Serbia in relation to Anglophone countries. In the case of a lexical gap, the lexicographer is obliged to introduce the concept and then explain the meaning (Prinsloo & Zondi 2020: 349), offering a surrogate equivalent to coordinate with the lemma sign (Gouws 2002: 200). The main task is to identify a term that can effectively represent a concept. In this respect, the compiler should employ some available options, "such as loan words, paraphrases of meaning, and pictorial illustrations to guide the users to understand the meaning of a word" (Prinsloo & Zondi 2020: 361).

Different types of translation procedures must be used to treat these relationships in technical-scientific dictionaries. From a conceptual point of view, translation procedures are regarded as tools for textual analysis to establish semantic and formal relations arising between the original and the target text, influencing not only sentences but also parts thereof, enabling us to understand how translation equivalence operates (Gibová 2011: 162). However, translation procedures depend on the choice of translation strategy, which refers to the global method of translating selected text structures. In this respect, two opposing translation strategies, domestication, and foreignization were introduced by American translation theorist Lawrence Venuti. According to his view, domestication refers to “an ethnocentric reduction of the foreign text to target-language cultural values, bringing the author back home,” whereas foreignization is “an ethnodeviant pressure on those (cultural) values to register the linguistic and cultural difference of the foreign text, sending the reader abroad.” (Venuti 1995: 20). Briefly, the former insists on source text-oriented translation by minimizing the strangeness of the foreign text, whereas the latter emphasizes the target text-oriented translation. Venuti preferred foreignization, considering that this strategy retains the linguistic and cultural differences in the original text instead of eliminating them. Hatim (2013: 16) uses a triangle to represent the equivalence paradigm which is in line with Venuti’s view, explaining that loyalty to the source text or target text can be presented by the baseline of the triangle: “those on the left-hand side would display source text orientation, those on the right-hand side a predominantly target text orientation”.

Although Venuti’s bipolar principle of translation equivalence is mostly applied in literary text rendition analysis to reveal underpinned translation strategies, a few successful attempts have been made to investigate the translation strategies adopted when translating brand names in advertising (Bouziane 2013), cosmetic products (Bouziane 2020), or business-to-consumer advertisements (Halimah and Aljaroudi 2019) from English into Arabic, confirming that this principle may also be used in applied linguistics for investigation purposes. This inspired the authors to start LSP lexicography research using the same starting point, aiming to reveal translation procedures together with a foreign language or target language-oriented strategies and predict future trends in LSP dictionary equivalent selection in the field of engineering.

The authors hypothesized that LSP dictionaries in traditional engineering disciplines primarily use domesticating (TL-oriented equivalent) translation procedures, such as literal translation, paraphrasing, transposition, or descriptive equivalents, and rarely employ foreignizing ones such as calques, whereas those in high-tech engineering disciplines tend to apply foreignizing (SL-oriented equivalent) translation procedures, such as calque, naturalization, or transliteration, although they still utilize domesticating ones. The pilot study is done in order to evaluate the potential for future large-scale projects.

Review of recent publications on case studies of translation procedures

Translation studies, as a special discipline, rapidly developed in the second half of the 20th century and at the beginning of the new millennium, aiming, among other things, to highlight the role of translation procedures as translation tools for specialized terminology. According to Gibová (2012: 7), some linguists have enabled deeper consideration of practical issues and further directions for translation development through case studies on translation procedures. In this respect, she outlined the contribution of Salki (2001), Molina and Hurtado (2002), Klaudi and Karoli (2005), Pim (2005), Kamenicka (2007), Ordudari (2007), Zakir (2008), Garnier (2009), and Gibová, 2011, (2012: 7). These authors highlighted this topic by addressing clarity in translation, reassessment, and the redefinition of translation procedures, illustrating how translators cope with real translation problems. Regarding specialized translation, Schäffner and Wiesemann (2001) recognized the growing need for translation from English to German, revealing the relevant translation decision-making processes regarding applied translation strategies and procedures. Hatam and Shafiei (2012) examined the relationship between the technical English proficiency of Mechanical Engineering students and their technical translation proficiency when translating mechanics technical texts from English into Persian. Hosseinimanesh and Dastjerdi (2013) examined translations of an academic technical text, focusing on the notion of lexical and syntactic interference in translation with the objective of specifying the ways in which interference affects comprehensibility. Zaytsev (2016) attracted attention by considering translation procedures in non-literary texts when translating from English to Russian, and vice versa. Generally, translation procedures have been limited to examining literary and non-literary text translation but have rarely been investigated from the perspective of bilingual technical dictionary compilation, where technical terms are regarded as uncontextualized terminological units. In Serbian linguistic literature, translation procedures were first examined theoretically (Ivir 1985). However, some studies addressing complex lexical problems in different areas that directly or indirectly relate to translation procedures have emerged in the new millennium (Vasić et al. 2001,, Prćić 2001, Jovanović 2001, Prćić 2005, Filipović 2005, Panić-Kavgić 2006, Hlebec 2009, Silaški 2012, Milić 2015a, 2015b, Katić and Šafranj 2015, Jagrović and Jagrović 2017). Nonetheless, a clear gap remains in the English-Serbian language pair concerning the investigation of translation procedures in bilingual technical dictionaries/glossaries in old and modern engineering disciplines.

LSP dictionaries of different technical disciplines: A case study of translation procedures

For the purpose of this research, a pilot study was conducted on two English-Serbian LSP dictionaries from different disciplines, namely from the traditional field, with a focus on mechanical engineering, and from the contemporary field, concentrating on information technology. In this respect, the authors analyzed *Rečnik mašinske tehnike englesko-srpski* (2002) (in English: *English-Serbian Dictionary of Mechanical Engineering*, in further text DME), intended for students of mechanical engineering, engineers, and professional translators, and *Kompjuterski rečnik* (2015) (in English: *Dictionary of Computer Terms*, in further text DCT), created for a wide circle of beginners to expert users in the field. The former (DME) is a result of the mutual effort of LSP lexicographers and experts in the field, as indicated in the preface of the dictionary, owing to the complexity of terminology and difficulties in finding proper Serbian names for English terms, which is in agreement with contemporary trends in LSP lexicography promoting interdisciplinary collaboration between dictionary compilers (Fuertes-Olivera & Tarp 2014: 58-59), whereas the latter (DCT) is obviously prepared by an expert in the field of Information Technology because it lacks additional explanations regarding problems with equivalents and necessary information in terms of dictionary compilation.

In the light of above mentioned, it is worth noting that mechanical engineering is one of the oldest engineering disciplines which began to develop during the Industrial Revolution, with a growing demand for machinery and functional devices in the latter part of the 18th century. In Serbia, Mechanical Engineering mostly evolved under the influence of Germany, one of the world's leading engineering powers in the late 19th century (Rudolf Diesel invented the first diesel engine in Germany in 1896). On the other hand, as a modern discipline, information technology (IT) is associated with the Internet and computers, grouped into five stages or generations, the evolution of which began in the second half of the 20th century. In contrast to mechanical engineering, the field of IT and computer science in Serbia began to develop under the influence of Anglophone countries (the concept of the first programmable computer was created by Charles Babbage in the UK, whereas IBM Corporation introduced the first personalized computer in 1981 in Florida, USA). The DME (consisting of 322 pages) covers terms in the core areas of industrial machinery, engines, motor vehicles, and so on. In contrast, DCT (consisting of 321 pages) comprises terms related to communications, database technologies, computer science, mobile computing, multimedia and networking, operating systems, programming, hardware, software, computer types, and the World Wide Web. The authors assumed that the appearance of foreignizing translation procedures (calque, naturalisation, or transliteration) at a higher frequency in the field of computer science is a consequence of the modern globalisation process associated with innovation and technology, requiring ready-made terms owing to the rapid progress of the domain, whereas the field of Mechanical Engineering began to develop long before the era of modern globalisation, which resulted in a greater degree of domestication of translation procedures, providing dictionary users with easy-to-understand definitions of technical terms in the form of lengthy explanations and descriptions. Based on this, this pilot study compared two dictionaries from different disciplines.

Methodology

In this small-scale pilot study, the authors analyzed randomly selected consecutive alphabetical stretches in both LSP dictionaries (R, S, and T in DME from page 216 to page 299 and B, C, and D in DCT from page 21 to page 71) as a sample to detect the translation procedures and strategies employed by their compilers to reach translation equivalence. Both dictionaries are available only in hard copies, not in digital form, which imposes restrictions on larger-scale investigations. Therefore, the authors oriented this research as a pilot study, aiming to check if further investigations would be worth additional efforts. The framework of the study was grounded in Venuti's model, whereas the research methodology relied on qualitative and quantitative analyses, based on a corpus size of 887 lemmas in DME (out of 3600) and 908 lemmas in DCT (out of 4900). First, the authors detected the translation procedures by contrasting English sources and Serbian equivalents. All disputes regarding the identification of translation procedures were resolved through fruitful discussions. Second, all selected lemmas (from both dictionaries) and their Serbian counterparts were examined from the perspective of equivalence relations and divided into different categories: full equivalence or congruence, partial equivalence or divergence, and zero equivalence (Gouws 2002, Gouws & Prinsloo 2005). Third, the identified translation procedures were classified according to Venuti's (1995) principles of domestication and foreignization. Finally, the quantitative dimension of the performed data analyses based on the above-mentioned corpus was expressed through a graphical view of numerical data for foreignization and domestication strategies, including statistical figures for the employment of individual translation procedures and a graphical view of numerical data for different categories of translation equivalence in both dictionaries. The results showed that in DME literal translation procedure was applied 14 times to attain full equivalence or congruence, representing the domestication strategy. In the case of partial equivalence or lexical divergence, descriptive equivalents were applied in 709 cases, synonymy in two, transposition in 29, paraphrasing associated with polysemy in 61, extension in 46, and reduction in 12, as a part of the domestication strategy. In terms of zero equivalence, there were two cases of surrogate equivalents in the form of descriptions and three cases of surrogate equivalents in the form of paraphrasing which belong to the domestication strategy. In contrast, there were only nine cases of equivalents in the form of loans produced by the calque procedure, representing a foreignization strategy. In the DCT, direct equivalents were applied 44 times using a literal translation procedure to attain full equivalence, reflecting a domestication strategy. Next, to attain partial equivalence, the compiler of the dictionary applied a domestication strategy using near-synonyms in eight cases, definitions in 137 cases, paraphrases in 207 cases, transposition in 169 cases, extensions in 29 cases, and reduction in five cases with regard to lexical divergence, whereas semantic divergence associated with polysemy was treated only by a paraphrase in 24 cases. To manage zero equivalence, there were 143 cases of calque, 75 cases of naturalization, and 67 cases of transference as part of the foreignization strategy. This is followed by a detailed qualitative discussion and illustrative examples.

Qualitative and quantitative analysis

First, the alphabetical stretches of R, S, and T in DME were examined. Of the 887 lemmas presented, only 14 were offered target language equivalents with identical meanings, attaining full equivalence or congruence. In these relatively rare cases of *full equivalence*, the compilers of the dictionary used a *literal translation procedure* to apply the *domestication strategy*, which “sounds” quite appropriate to the end users, aiming to offer clear and insertable equivalents. For example:

rail – vučnica;
seal – zaptivka;
spindle – vreteno;
stop – graničnik;
strap – uzengija;

The translation counterparts of the 859 lemmas were grounded in *partial equivalence* or *divergence*, either lexical or semantic, respectively. Namely, *descriptive equivalent*, *synonymy*, *transposition*, *extension*, and reduction as domesticating translation procedures were used in the case of lexical divergence when translating double or triple noun compounds with different grammatical structures in relation to SL, reflecting the richness and adaptability of the target language, whereas paraphrasing as domesticating translation procedure was used in the case of semantic divergence, associated with polysemy. The results showed that descriptive equivalents were applied in 709 cases, synonymy in 2, transposition in 29, paraphrasing associated with polysemy in 61, extension in 46, and reduction in 12, confirming that in these particular cases Serbian counterparts were only partially able to express the meaning of specialized terms.

Let us consider the following examples.

An example of a *descriptive equivalent* is as follows.

suspension rate – promena opterećenja točka u središtu kontakta pneumatika po jedinici pomeranja opružne mase vozila.

(English translation: Change in wheel load in the center of the tire contact per unit of vehicle spring mass displacement.)

This is an example of *synonymy.*

tension rod – upravljačka vezna poluga **ili** vezna šipka

(English translation: Control link **or** tie rod)

This is an example of *transposition*:

rocker shaft – osovina klackalice;
rear wheel axis – osa zadnjeg točka;
slip angle – ugao proklizavanja

This is an example of *paraphrasing* in case of *lexical divergence*:

Schrader valve - tip pneumatskog nepovratnog ventila koji se koristi specijalno za naduvavanje pneumatika. Pritisak na centralni čep otvara ventila da bi se olakšalo naduvavanje i merenje pritiska u pneumatiku.

(English translation: A type of pneumatic non-return valve used specifically for inflating tires. Pressure on the center plug opens the valve to facilitate inflation and measurement of tire pressure).

This is an example of *paraphrasing* used in the case of *semantic divergence*, associated with polysemy.

torque convertor (1) hidraulični konvertor koji se sastoji od rotirajućih i statičkih sklopova sa krilcima pomoću kojih se obrtni moment može prenositi, umnožavati i kontrolisati. To je osobina mnogih automatskih transmisija. (2) uredjaj koji prenosi obrtni moment sa jedne osovine na drugu obično pomoću hidraulika i dozvoljava asinhronost između osovina.

(English translation: (1) a hydraulic converter consisting of rotating and static vane assemblies by which torque can be transmitted, multiplied and controlled. This is a feature of many automatic transmissions. (2) a device that transmits torque from one axle to another usually by means of hydraulics and allows asynchrony between axles).

This is an example of *expansion.*

rubber “o” ring – gumeni “O” zaptivn iprsten

This is an example of *reduction.*

sparking plug – svećica

Where suitable translation equivalents were not available, that is, in the case of zero equivalence relation, surrogate equivalents were created by means of description and paraphrasing, which also belong to the domestication strategy. There were 2 cases of surrogate equivalents in the form of description and 3 cases of surrogate equivalents in the form of paraphrasing.

Here are some examples of surrogate equivalence in the form of domestication strategies.

This is an example of *description*:

Scotsman's sixth – praksa da se vozilo kreće nizbrdo bez angažovanja stepena prenosa posebno kod komercijalnih vozila (termin se uglavnom koristi u UK).

(English translation: the practice of moving a vehicle downhill without engaging gears, especially in commercial vehicles (the term is mostly used in the UK)).

In this particular dictionary, there were only nine cases of equivalents in the form of loans produced by the calque procedure, which is considered an efficient tool for foreignization strategies. For example:

steering worm – upravljački puž;

swing shackle – pomična spojnica;

Second, alphabetical stretches of B, C, and D in the DCT, composed of 908 lemmas, were analyzed. In this connection, 44 lemmas were assigned direct equivalents using a literal translation procedure, reflecting a domestication strategy.

Let us now display some examples of full equivalence using a literal translation procedure that reflects a domestication strategy.

band – opseg;

caddy – nosač;

bridge – most;

computer – računar;

crop – odsecanje

Next, to make the terms more comprehensible to the reader, *near-synonyms* (eight cases), *definitions* (137 cases), *paraphrases* (207 cases), *transposition* (169 cases), *extension* (29 cases), and *reduction* (five cases) were used as domesticating translation procedures to treat partial equivalence in the cases of lexical divergence. Semantic divergence associated with polysemy (which requires a separate translation equivalent for each polysemous sense) was only treated by *paraphrase* (24 cases) to provide optimal retrieval of information for different types of users.

The following examples illustrate partial equivalence using domesticating procedures, such as *near-synonyms*, *definitions*, *paraphrases*, *transposition*, *extension*, and *reduction* employed in the case of lexical divergence.

These are examples of *near-synonyms*.

barebase – osnova ili (or) kostur

display – ekran ili (or) monitor

These are examples of *definitions.*

Bench32 – Sveobuhvatno merenje ukupnih performansi sistema pod Windowsom NT i Windowsom 95 (English translation: Comprehensive measurement of overall system performance under Windows NT and Windows 95)

Let us consider examples of paraphrasing in the case of lexical divergence.

DiskCopy – Uslužni program koji se koristi za kreiranje kopije celog flopi diska

(English translation: A utility (program designed to facilitate routine operations) used to create a copy of an entire floppy disk)

Let us display an example of paraphrasing in the case of semantic divergence associated with polysemy.

duty cycle – (1) U oblasti štampanja I kopiranja, termin *duty cycle* se odnosi na broj kopija odštampanih stranica koji neki uredjaj može sa dovoljnom pouzdanošću generisati na mesečnom nivou. itd… (2) u oblasti merenja, radni ciklus se definiše kao odnos izmedju trajanja nekog fenomena i ukupnog vremena tokom kojeg je merenje vršeno, pri čemu se radni ciklus označava slovom D. itd… (3) U oblasti emisije radio zračenja, radni ciklus, koji se još naziva i radnim faktorom, predstavlja deo vremena tokom kojeg je neki radar emitovao radio signale.

(English translation: (1) In the field of printing and copying, the term ***duty cycle*** refers to the number of copies of printed pages that a device can reliably generate on a monthly basis. etc... (2) in the field of measurement, the *duty cycle* is defined as the ratio between the duration of a phenomenon and the total time during which the measurement was made, whereby the duty cycle is denoted by the letter D. etc... (3) In the field of radio radiation emission, the *duty cycle*, which is also called the *duty factor*, represents a part of the time during which radar emitted radio signals.)

These are examples of *transposition*.

buddy list – lista prijatelja (*Transposition*: noun + noun→ morphological substitution)
dialog box – okvir za dijalog (*Transposition:* noun+ noun→ noun+ prepositional phrase)
capture buffer – prihvatni buffer (*Transposition*: noun+ noun→ adjective + noun)

These are examples of *extension.*

banding shaping – oblikovanje propusnog opsega
carrier – noseća frekvencija

These are examples of *reduction*.

blog search engine – blog pretraživač

Finally, in 285 cases of zero equivalence (i.e. a lack of suitable translation equivalents in the target language), lemmas were mostly treated through loans (borrowed words) derived from calque (143 cases), naturalization (75 cases), and transference (67 cases) as part of the foreignization strategy. In fact, the authors observed an increased tendency to use foreignizing procedures devoid of redundancy and obscure meaning in the domain of IT engineering compared to those employed in the field of mechanical engineering, marked mainly by extra information that is unneeded or duplicated.

Some examples of loans used in the case of zero equivalence represent a foreignization strategy.

These are examples of *naturalization*.

compiler – kompajler
driver – drajver
blogosphere – blogosfera

These are examples of the *calques.*

cold boot – hladno startovanje
clay animation – glinena animacija
cukoo egg – kukavičije jaje

These are examples of *transliteration*.

bluebugging – bluebugging
bluejacking – bluejacking
bluesnarfing – bluesnarfing

Discussion

The analysis of our case study indicates that lexicographers used quite opposed translation strategies, either foreignization or domestication, known as Venuti's strategies, to communicate the knowledge of different engineering disciplines. Regarding the frequency of each method, the results showed that the most dominant translation strategy was the domestication strategy in either the old – mechanical engineering – (873cases) or modern discipline – information technology (623 cases), whereas a conspicuous increase in foreignization strategy (285 cases) was noticed in the field of modern engineering discipline – information technology – when compared with mechanical engineering (14 cases) regarded as old (Figure 1).

In addition, our findings suggest that the most commonly employed equivalent relation in the field of mechanical engineering is partial equivalence. In this regard, the most frequent translation procedure was descriptive equivalent with 80.16%, followed by paraphrase (associated with polysemy), extension, transposition, reduction, and synonymy with 7.22%, 5.19%, 3.27%, 0.23%, and 1.35%, respectively. Zero equivalence was solved by calques with 1.01%, including domesticating procedures – paraphrasing and description – with 0.34% and 0.23%, respectively. Surprisingly, full equivalence was the least-employed equivalent relation treated by the literal translation procedure (1.58%). Finally, 98.99% of the terms were domesticated. The use of translation procedures in the mechanical engineering domain is shown in Figure 2.

Figure 1. Employment of domestication and foreignization strategies in the mechanical engineering and it domains

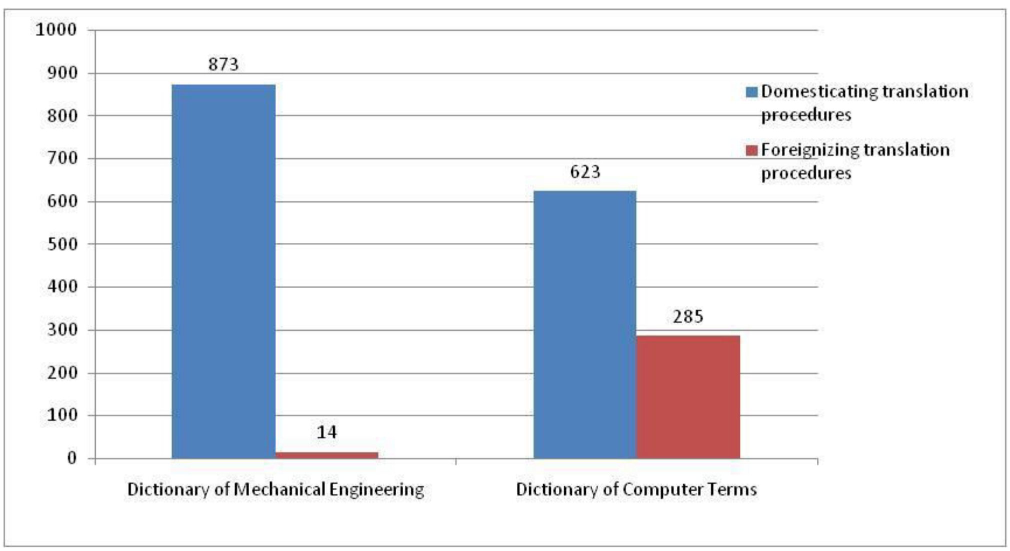
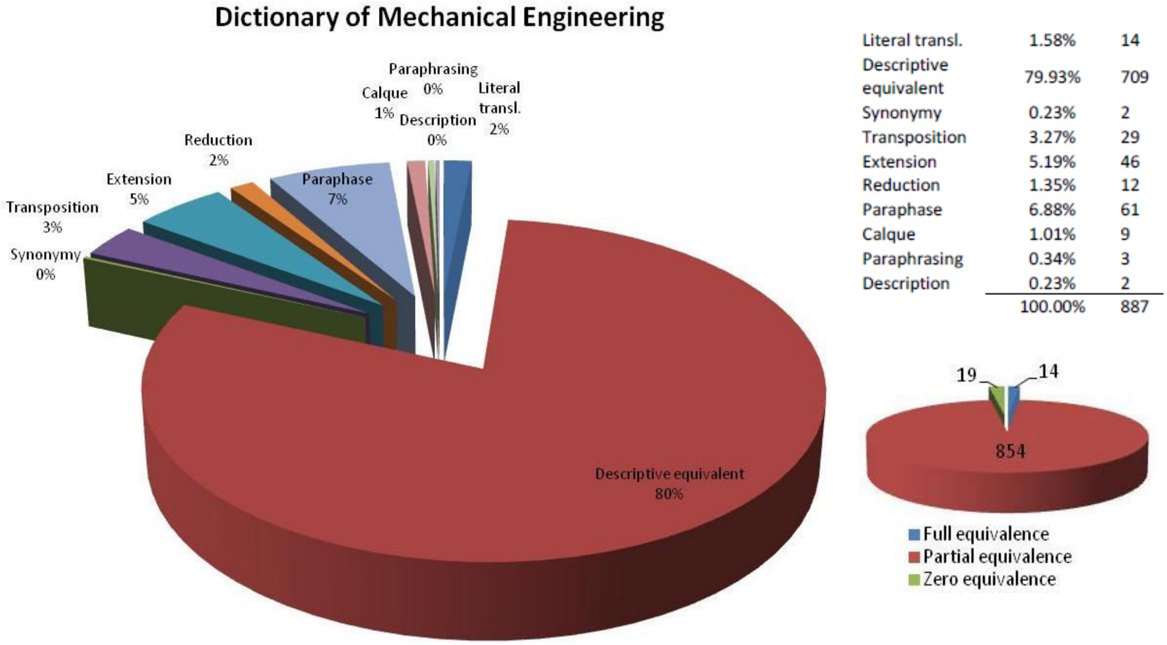


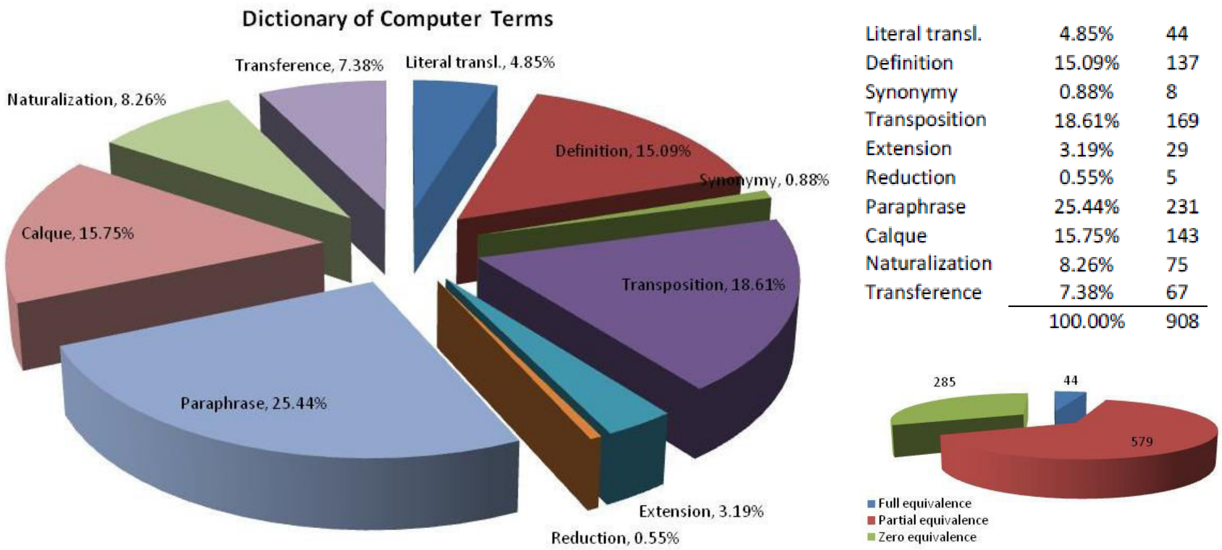
Figure 2. Employment of translation procedures in the mechanical engineering domain



It is interesting to note that the problem of zero equivalence in the mechanical engineering discipline was not only solved by calque (considered to be a foreignizing procedure), but also by domesticating procedures such as paraphrasing and description, indicating a reluctance of LSP lexicographers to use "foreign words". Similar to mechanical engineering, partial equivalence prevails in the field of information technology, as shown in Figure 3. In this respect, the most employed translation procedures were paraphrases, transposition, definitions, extension, near-synonyms, and reduction, used by LSP lexicographers with 0.55%, 25.44%, 18.61%, 15.09%, 3.19%, 0.88%, and 0.55%, respectively. Full equivalence was achieved by a literal translation procedure with 4.85%, whereas zero equivalence was achieved by calques, naturalization, and transference at 15.75%, 8.26%, and 7.38%, respectively. It can be concluded that 31.39% of the terms were foreignized in the translation process. The use of translation procedures in the IT domain is shown in Figure 3.

In Figure 3, the accent is on foreignizing translation procedures – naturalization and transliteration – which, according to our observation, was additionally applied in the domain of information technology (apart from calques), but totally omitted in the domain of mechanical engineering. This is an indication that Serbian lexicographers have become increasingly open to foreign influence in contemporary disciplines, aiming to avoid ambiguity in meaning as much as possible and to make the terms more economical and precise for end users.

Figure 3. Employment of Translation Procedures in the IT Domain



The authors also observed that in the LSP Dictionary of the IT domain, a certain number of lemmas lacking direct translation equivalents in Serbian were assigned not only borrowed words, but also a clear interpretation of meaning in the form of comprehensive definitions or descriptions. The authors suppose that this was done because borrowed words without clear semantic explanations were purposeless for specialized dictionary users. However, in the near future, after frequent use of the newly coined terms, it is expected that these "foreign" words will be established in general use as independent i.e. self-sufficient words, "released from" any additional unnecessary information.

Conclusion

Interestingly, lexicographers of both examined dictionaries used almost the same domesticating translation procedures when searching for equivalent relations, known as full and partial equivalence. However, there is a difference between the dictionaries of mechanical engineering, as a representative of old engineering disciplines, and the IT domain, as a representative of modern engineering disciplines, in terms of zero equivalence relations. This is reflected in the appearance of additional foreignizing translation procedures in the latter discipline, namely, naturalization and transliteration. These foreignizing translation procedures, as part of the foreignizing strategy advocated by Venuti, are used to facilitate and speed up communication in the IT domain's professional world owing to its dynamic development, aiming to make specialized discourse more functional for end users. Our case study results confirmed our hypothesis that domesticating (TL-oriented equivalent) translation procedures prevail in LSP dictionaries of traditional engineering disciplines, although foreignizing procedures are not completely excluded. On the other hand, dictionaries in high-tech, that is, modern engineering disciplines, show a growing tendency towards foreignizing (SL-oriented equivalent) translation procedures, but they still utilize domesticating ones.

Briefly, our case study revealed that both domesticating and foreignizing translation procedures played a vital role in communicating the knowledge of different technical disciplines, complementing each other to achieve the goals and intentions of LSP lexicographers.

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Developing engineering students' presentation skills using a genre-based approach

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Abstract
Good presentation skills are an essential part of engineering students' oral competence. LSP classroom presentations where students present topics of common interests to their classmates provide engineering students with an opportunity to socialize into the discourse of their future professional community. However, in a situation when the majority of students come to university with only limited knowledge about how to prepare an academic presentation, a foreign language presentation may become a daunting task. This paper aims to explore how some of the frequent hurdles encountered by engineering students when making presentations in LSP class can be overcome by using a genre-based approach. Identifying some of the common problems experienced by engineering students from the University of Novi Sad, the paper tries to relate them to the rhetorical and pragmatic skills required for making a successful presentation. It then focuses on identifying the moves and linguistic resources that characterize oral presentation as a genre before finally suggesting how this genre knowledge can be applied to making successful LSP presentations. Through this kind of practice, engineering students prepare to become effective participants in their future discourse communities.

Keywords*: LSP, engineering students, oral presentations, genre-based instruction*

Introduction

Presentation skills are an important component of engineering students' oral competence in a foreign or second language as these skills are required in their future professional life. Oral presentations delivered to a group of colleagues, members of the other team or potential clients are a frequent feature of the professional engineering environment and multinational teams, which communicate in an international language, are the reality of the 21st century. By providing practice in presenting topics of common interests to fellow students, LSP classroom presentations offer engineering students the opportunity to socialize into the discourse of their future professional community.

Oral presentations have become one of the principal genres in educational settings, from primary schools to higher education institutions (Zareva 2009, Zareva 2021, Hyland 2009, Kaur and Ali 2018). Presentations enable students to advance many of the key competencies required by contemporary education as they clearly align with modern teaching methodologies and educational goals (Knežević 2014). Sharing specific knowledge and information in the form of classroom presentations helps second language students in developing their communication skills. In addition, presentations help develop critical thinking, learner autonomy and digital skills and, at the same time, offer the benefit of practicing work in pairs and teams. However, presentation skills are rarely formally taught and presentations in a second or foreign language, although an important component in developing spoken language skills and evaluating students' oral competence, are not sufficiently represented in language learning pedagogy.

This paper examines the potential of using genre-based pedagogy to improve engineering students' presentation skills in an LSP (language for specific purpose) class at the university level. The notion of genre has emerged in the past decades as one of the most important concepts in language research. At the same time, genre-based instruction or genre-based pedagogy has become an influential method in language teaching, particularly in teaching languages for specific purposes. Although past decades have provided evidence of the benefits of the genre-based approach, the research interest and, consequently, pedagogical applications have mainly been focused on written genres whereas oral genres have received considerably less attention. The present paper aims to provide insight into the LSP classroom presentation as an oral genre and to offer suggestions on how genre knowledge can be used to improve presentation skills. Based on the authors' experience in teaching English and German to engineering students from the University of Novi Sad, Servia, it considers some of the common challenges engineering students encounter when making presentations in an LSP class and aims to propound ideas how these issues can be addressed based on the insights from the research into the generic characteristics of oral presentations in academic and professional settings.

Genre and genre-based instruction

Genre-based pedagogy has its roots in Swales' 1990 work, which established the basic concepts of applying genre theory to language teaching and greatly influenced ESP pedagogy. Swales (1990: 58) defines genre as "a class of communicative events, the members of which share some set of communicative purposes" and stresses the role of the discourse community in which a genre is used. In his CARS model, he looks at the genre of research articles and describes RA introduction in terms of 'moves': basic units of discourse analysis that fulfil a communicative purpose and which are accompanied by 'sub-moves' or 'steps'. Genre analysis also examines text patterning and lexico-grammatical features of genres to identify how these are used by expert members of a discourse community. This approach has been employed to analyze various academic genres such as research abstracts (Salager-Mayer 1990), master theses and doctoral dissertations (Paltridge and Starfield 2007), student laboratory reports (Parkinson 2017), as well as non-academic genres such as letters of application (Henry and Roseberry 2001) and newspaper articles (Bonyadi 2012).

This interest in genre analysis has been reflected in language teaching, particularly in LSP (Flowerdew 2000, Swales, 2004). As part of genre-based pedagogy (GBP), academic and professional genres are analyzed and described with the idea that students' awareness of the target genre and how language is used to convey meaning in a particular context is instrumental for their future successful participation in this environment (Belcher 2009). As most genre studies have been focused on written genres, genre-based pedagogy in second language teaching has also been primarily oriented towards writing instruction. Application of GBP to teaching second language writing (Yasuda 2011, Wingate 2012, Wang 2013) indicates that the type of instruction that focuses on genre awareness and moves and steps of the genre results in improved writing quality and lexical intensity. The review of 11 studies on genre-based pedagogy (Budiwati 2021) stresses the great significance of genre knowledge in EFL classes for understanding genres as created, dynamic and ideological structures and for developing rhetorical flexibility for adapting this genre knowledge to achieve communicative goals. The positive effects of genre-based teaching are not limited to teaching writing and have been found to have an extended effect (Hyon 2001).

Genre analysis of spoken academic discourse has been undertaken less frequently and has mainly been focused on the so-called "high stake" genres such as academic lectures (e.g. Thompson 1994), dissertation defenses (Swales 2004), seminars (Weisberg 1993) and conference presentations (Dubois 1980, Carter-Thomas and Rowley-Jolivet 2003). Some of these studies will be analyzed in this paper as we believe they provide insights into the genre features, which are relevant for LSP student presentations and are valuable for engineering students' disciplinary socialization.

Challenges of LSP classroom presentations

Oral presentations are a salient feature of language learning classrooms. At a tertiary level, and specifically in LSP classes, students are expected to deliver informative, well-organized and effective presentations in a foreign language. Taking on the role of an expert in front of a group of colleagues and presenting a topic of common interest requires good presentation skills. However, adequate preparation in terms of understanding the specific features of oral presentation and acquiring linguistic resources for delivering a successful presentation is often missing. It is the authors' experience that even if students have had previous experience presenting in their first language, this does not always ensure the transfer of good presentations skills to LSP classrooms. The tradition of classroom presentation in the education system in Serbia puts more emphasis on information content and less on rhetorical and linguistic features of successful delivery.

Making a presentation is a demanding task, which is made additionally difficult in a situation of inadequate language proficiency (Weissberg 1993). For some students presenting in an LSP class becomes a daunting assignment, as it requires not only mastering a specific topic and subject matter but also acquiring specialized terminology, correct sentence structure and pronunciation of specific engineering terms. However, the problems related to LSP presentations are not solely related to language issues but very often stem from the lack of awareness of the characteristic features of oral presentations as a genre. In our experience, this is the reason why engineering students' presentations fail to incorporate appropriate linguistic features, which would convey relevant rhetorical functions of a presentation. The problems that students encounter when making presentations in English and German are very similar in this respect and for that reason, genre-based instruction can be effective in improving students' presentation skills.

Many of the problems related to LSP presentations stem from the fact that the source material for students' presentations is typically in written form (Wikipedia entry, web page, popular science article, online magazine article, etc.). In the situation when students are not sufficiently aware of the genre characteristics of oral presentations, they fail to successfully adapt these written genres to spoken discourse. For example, in the process of recontextualization of a written genre into an oral one, students need to perform some moves that characterize the genre of spoken presentations. They need to announce the topic of the presentation, its scope and organization as identified by Thompson, 1994). Additionally, they need to master the adequate linguistic resources to be used to achieve the desired communicative purpose, e.g. how to draw listeners' attention to the visual elements that accompany the presentation, how to indicate the closure of the presentation, etc.

The goal of this paper is to provide suggestions on how the challenges of making a presentation in an LSP class can be overcome by adopting a genre-based approach to teaching presentation skills in English and German. It tries to outline the rhetorical structure of oral presentation, which can be applied in teaching LSP classes, and to provide a description of linguistic features that expert English and German presenters typically use to achieve their communicative purpose. Based on the analysis of academic and professional oral presentations, we will provide a general framework of their structural organization that could be applied in LSP classrooms. In addition to the outline of the moves and steps involved in oral presentations we will try to identify the relevant lexico-grammatical features that would be useful for teaching presentation skills in English and German.

Methodology

Bhatia (1993) suggests that in order to make a comprehensive analysis of a genre one needs to consider the purpose of the analysis, the aspect of the genre one wishes to concentrate on and the background knowledge one already has about the genre. Depending on that, a researcher may employ some or all of the steps of his seven step model for carrying out the analysis of a genre: (1) Placing the given genre-text in a situational context, (2) surveying existing literature, (3) Refining the situational / contextual analysis, (4) Selecting corpus, (5) Studying the institutional context, (6) Levels of linguistic analysis and (7) specialist information in genre analysis. However, a full-scope analysis of that type was not carried out within the present investigation. Instead of applying the seven steps of Bhatia's genre analysis model to the analysis of LSP students' presentations, the authors decided that for pedagogical purposes it would be more useful to focus on the related oral genres that student presentations actually try to emulate: primarily academic presentations and engineering presentations. The analysis of these presentations and the ways in which their communicative purpose is accomplished by the expert members of the discourse community can be useful in aiding students who can be regarded as novices in this field.

The rationale for this position is found in the fact that although classroom presentations can be approached as a specific genre, in the case of the LSP setting the ultimate aim of language instruction is to aid students' professionalization and prepare them for functioning in their future discourse community. Therefore, in our analysis of the research in this field, we focused on the parallels between LSP students' presentations and the 'experts' presentations that students try to recreate in the classroom. In an attempt to identify the genre features that are pedagogically utilizable in an LSP class, we focus on communicative purpose and situational context with the aim to characterize typical or conventional textual features of these genres.

Additionally, the approach adopted in this paper can be described in terms of interdiscursivity or generic repurposing. As suggested by Hu and Liu (2018) interdiscursivity is pervasive in the professional and academic worlds and can be observed in both written and spoken genres. The nature of genres is such that they can be transformed to respond to new communicative purposes and contexts by mixing generic features from different sources. Academic oral genres are not "pure" or "isolated" but draw on and repurpose generic resources from related genres. In that sense, LSP presentations can be viewed as a specific genre, which utilizes generic resources and rhetorical features of oral academic or professional genres. Therefore, we relied on the available research on expert's (professional engineers and university lecturers) presentations in identifying the linguistic features, moves and other generic characteristics that can be included in our instruction on students' oral presentations. Those characteristics are outlined below.

Characteristics of LSP presentations

Oral presentations are frequently defined as a monologic discourse that deals with information transfer. As a specific type of oral presentation, LSP presentations share some characteristics with academic lectures, conference presentations and PhD thesis defenses: they are well organized, delivered to live audiences and "subject to constraints of information processing in real time" (Hu and Liu, 2018: 18). The specific characteristic of LSP presentations in comparison to these oral genres lies in the context in which they occur (classroom setting which tries to recreate future professional or academic setting). The purpose of these genres is similar (to share knowledge of a particular topic of common interest) although the information load of LSP presentations is considerably smaller.

In addition to being informative, a presentation also needs to establish rapport with the audience as this interaction helps the presenter to convey a message successfully. Discussing communications skills in academic monologue discourse, Pérez-Llantada (2003) stresses the role of interactive skills in academic settings and states that "effective communication entails not only providing information in a clear and objective way but also producing a desired effect on the audience" (Pérez-Llantada 2003: 4).

An attribute of oral genres and LSP presentations, which students are not always aware of, is their ephemeral nature. Coming from a rhetorical background where the responsibility for understanding an oral or written text is usually on the listener/reader and not on the speaker/writer and faced with the task of delivering complex messages in a foreign language, the students often focus on the engineering content and fail to establish rapport with the audience.. In this respect their presentations often lack language signposts which would engage and guide the audience and thus aid them in understanding the concepts which are being presented. On the other hand, Thompson's (1994) analysis of lecture introductions indicates that the successful transfer of knowledge in an oral presentation is facilitated by providing support for the listeners and presenting a clear lecture framework. In addition, the dissemination of information is not successful unless the presenter engages in paraphrasing, emphasizing and exemplifying with the aim of overcoming the fleeting character of spoken genres.

All presentations are multimodal, i.e. a presenter employs different semiotic resources or modes to communicate their ideas: language, tone, gestures, posture, visual aids, etc. Carter Thomas and Rowley-Jolivet (2003) note in their analysis that while the main channel of presentations at scientific conferences is the spoken one, a large number of visuals typically accompany a speaker's discourse. The present-day advances in new technologies increase the potential for using the affordances of different modes in classroom presentations. The use of slides with photographs, tables, graphs and different types of graphics as well as the use of audio or video can enhance the process of knowledge dissemination but this still needs to be accompanied by adequate linguistic support.

Interacting with the audience, organizing a presentation, structuring argumentation and many other aspects of an effective presentation are achieved by incorporating the linguistic features linked to the use of various forms of metadiscourse. In that respect, metadiscourse is a "central pragmatic construct" (Hyland 1998: 437) in academic communication as it explicitly organizes the discourse and engages the audience in order to achieve the desired communicative effect. Using metadiscourse in a way which is established in a given discourse community, provides a more effective knowledge transmission and for that reason adapting appropriate metadiscourse techniques is important for LSP students.

The rhetorical structure of LSP presentations can be studied by comparing them to academic lectures and conference presentations and specifically engineering presentations. As Kaur and Ali (2018) note there are not many studies that have examined the whole rhetorical structure of oral presentations (introduction, body, conclusion and questions and answers session). Most of the studies that focused on examining professional or academic presentations concentrate on only one segment, i.e. introduction. Thompson's (1994) analysis of 18 academic lecture introductions from various fields (including engineering) identified two rhetorical moves (which she calls functions): Setting up Lecture Framework and Putting Topic in Context as well as their seven sub-moves or sub-functions. Lee's (2016) analysis adds a Warming up move at the very beginning, which clearly reflects the particular context of this genre (classroom) and the roles of lecturers and students.

In their analysis of the structure of conference presentations, Carter-Thomas and Rowley-Jolivet (2003) start from the pioneering work in this field, the research of biomedical conference presentations by Dubois (1980) and the distinction between content orientation and listener orientation. Their rhetorical model for the scientific conference presentation introduction identifies three moves: A. Setting up the Framework, B. Contextualising the Topic, and C. Research rationale. Seliman's (1996) analysis of engineering oral presentations provides a framework, which includes Listener Orientation and Content Orientation in the presentation introduction. An overview of the moves and steps identified in these four studies is presented in Table 1.

Table 1. Moves identified in lectures and oral presentations

MOVES	
Thompson (1994)	1. Setting up lecture framework - announce topic

lectures	- indicate scope - outline structure - present aims 2. Putting topic in context - show importance/ relevance of topic - relate “new” to “given” - refer to earlier lectures
Seliman (1996) oral presentations	1. Orientating listeners - thanking chairman - acknowledging audience - greeting audience - expressing appreciation 2. Orienting the content - leading audience into content - announcing the title of OP - announcing subject and title of OP - commenting on subject/ title or subject and title of OP 3. Focusing on the content - previewing the structure of OP briefly - previewing the structure of OP in detail - limiting the scope of coverage of the work
Carter-Thomas and Rowley-Jolivet (2003) conference presentations	1. Setting up the framework - interpersonal framework (listener orientation and/ or acknowledgments) - discourse framework (announce topic and outline structure/ indicate scope 2. Contextualizing the topic - conference context - general research context 3. Research rationale - motivation - response - outline research goals
Lee (2016) classroom lessons	1. Warming up - making a digression - housekeeping - looking ahead 2. Setting up the lecture framework - announcing the topic - indicating the scope - outlining the structure - presenting the aims 3. Putting the topic in context - showing the importance of the topic - relating “new” to “given” - referring to earlier lecture(s)

As the overview of the abovementioned studies shows, the rhetorical phases in the introduction include the steps which are aimed at providing some kind of cognitive road map for the audience, e.g., outlining the structure, scope or organization of the presentation, previewing or contextualizing the topic, etc. This is intended to help the listeners follow the presentation/lecture. Additionally, the common step in the analysis of conference presentations, which is not present in the analysis of university lectures, is the interpersonal step where the presenter directly addresses the chairman/audience. The authors of all of these studies emphasize that the moves and steps are identified based on their high incidence of occurrence but were not necessarily employed by all the speakers. Some of the steps are described as optional and the steps do not always follow the same sequence. It is important that these generic variations be indicated to the students so that they are aware of the flexible nature of these spoken genres and understand genre as a way of achieving rhetorical goals rather than as a static set of rules and conventions.

The flexible nature of LSP presentations becomes even more prominent if we attempt to analyze the body of the presentations. The study by Seliman (1996) which analyzed the entire structure of engineering presentations provides a detailed analysis of this genre. However, it should be noted that it deals specifically with the presentations with the problem/solution pattern. Hu and Liu (2018) who studied a new genre of Three Minute Thesis (3MT) presentations identified eight moves in this new genre: Orientation, Rationale, Framework, Purpose, Method, Results and Termination. This structure reflects the competitive nature of these presentations as well as the fact that they are based on students' PH theses. Neither this nor Seliman's (1996) study can serve as a model for LSP students. In an LSP class, the task that students are given is usually defined very vaguely ("present an engineering topic of common interest for the group"). Consequently, their presentations can have very different formats: a historical overview, a short analysis of the advantages and disadvantages of a particular solution, a classification with examples, an explanation of the operation principles of a system /piece of equipment, etc. The structural organization of the text, its steps and moves then vary accordingly. As Kaur and Ali (2018) notice, the moves in the body of a presentation reflect the task they set out to achieve and thus this part of an oral presentation cannot be described in terms of standard rhetorical moves.

The concluding section of the presentation described in Seliman's (1996) study includes Preclosing and Closing moves. Pérez Llantada (2003) notes, based on personal experience that the established rhetorical moves of an academic presentation would include: summarizing main points, relating conclusion to them, making recommendations or proposals, inviting questions and thanking the audience. Some of these have their place in LSP presentations as standard features of spoken genres.

The linguistic features of LSP presentations correspond to their communicative purpose and rhetorical structure, as is the case with academic and professional presentations. The illustrations providing examples of the linguistic realization of these communicative purposes will be given here in English and German. The introduction reflects the need to establish an interpersonal and discourse framework by directly addressing and greeting the audience and providing an overview of the presentation (e.g. *I'm going to address the problem of* …, *Ich werde folgendes Problem ansprechen*…). As Thompson (1994) analysis of academic lectures indicates, these functions include linguistic features which indicate sequence (*firstly, then …; zuerst, dann*…) temporal relationship between presentation segments (*before, later…; bevor, nachher*,…) or the scope of the presentation (*briefly, broad…; kurz gesagt, allgemein*,…).

The body of the presentation, as was mentioned earlier, does not follow a set sequence of moves. However, there are certain linguistic features which can be expected to appear in this section of the presentation for the purpose of indicating a new segment of the presentation (e.g. *Let's move on to …; Nun zu*…), emphasizing similarity or contrast (e.g. *similarly…, unlike …, by contrast…; ähnlich…, im Gegensatz zu…, im Unterschied zu*…), making classifications (e.g. *These can be divided into three groups*

…; Das lässt sich in drei Gruppen einteilen…), etc. For this reason, the main part of the presentation incorporates various metadiscourse features which students need to master regardless of the specific communicative purpose and structure of a particular presentation.

Throughout the presentation, the interactive character of the genre is reflected through the use of language for addressing the audience and establishing a positive rapport. This is usually achieved through the use of pronouns for addressing the audience (*you; man*) or including the audience (*we; Sie*). Other metadiscourse techniques also explicitly provide different types of signals for the audience: they indicate an example (e.g. *Let me illustrate this* …; *Lassen Sie mich das erläutern*…), introduce an idea (e.g. *What I'm going to do is*…; *Was ich machen werde, ist folgendes*…) or suggest a connection (e.g. *This leads me to…; Das führt mich zu*…). The interpersonal nature of the presentation is also indicated by reformulating and paraphrasing what has been said in order to make sure the communication is successful (e.g. *Let me explain it in a different way* …, *In other words…; Lassen Sie es mich anders erklären…, Mit anderen Worten*…).

The multimodal character of a presentation is reflected in the lexical features, which explicitly indicate the use of other modes, usually visual (e.g. *As you can see in this graph*…, *This picture shows…; Wie Sie sehen können…, Dieses Bild zeigt*…) in order to fully exploit their affordances.

The conclusion of the presentation would usually include the language that suggests that the presentation is coming to a close by referring to time constraints (e.g. *In the last few minutes* …; *Am Ende*…), providing a summary of the main points (e.g. *To summarize …; Zum Schluß möchte/ soll man unterstreichen*…), indicating topics of future research (e.g. *It would be interesting to further investigate…; Es wäre interessant, weiter zu recherchieren*…) before thanking the audience and inviting questions.

Implementation in LSP classrooms

After analyzing the research on oral presentations which focused on the members of the relevant discourse communities (academics and engineering professionals) and identifying the characteristics that are important for LSP classroom presentations, we can summarize their most prominent generic features. An overview of the moves and steps (where identified) as well as the lexico-grammatical and metadiscourse features which can be expected to be incorporated in LSP classroom presentations are given in Table 2. As it has been frequently argued, genre characteristics should not be treated as fixed patterns, which should be rigidly followed, and therefore the overview presented in this table is not intended to be prescriptive or exhaustive.

Table 2. LSP presentation moves and their lexical realization in English and German

INTRODUCTION
move 1 – interpersonal framework
- step 1 – greeting audience a) *Hello everyone, my name is…// Good morning/ Good afternoon everyone…* b) *Hallo, mein Name ist…// Guten Morgen/ Guten Tag...* - step 2 – announcing topic a) *As you can see on the screen, my topic for today is ...// Today I will be talking about...* b) *Wie Sie auf dem Bildschirm sehen können, lautet unser heutiges Thema...// Ich möchte heute über das Thema.. sprechen*
move 2 – discourse framework
- step 1 – outline presentation structure *a) I will start by .., then I will.. and finally we will...// First ... , second ...* *b) Am Anfang werde ich über.. sprechen, dann werde ich..danach wird.. zum Schluß*

wird...// *Bevor ich über (..) spreche..* - step 2 – providing context a) *You probably know that ….This topic is interesting because … // Let us remember…* b) *Dieses Thema haben wir bereits behandelt...// Erinnern wir uns an...*
BODY
various formats and moves but will probably include :
Classification a) *We can divide this into two parts...* b) *Man kann das/ Wir können das in zwei Teile aufteilen...* Moving from one segment to another a) *Now I´d like to turn to...// Having considered (x), let us now move on to (y)..* b) *Jetzt würde ich...// In diesem Zusammenhang können wir noch...erwähnen...* Focusing a) *I´d like to focus on...// What I´m going to do is to explain...* b) *Ich erläutere dieses Thema...// Diese Tabelle zeigt uns..* Comparing and contrasting a) *Similarly …On the other hand...// However…* b) *Einerseits…andererseits…// Jedoch…* Giving an example a) *For instance…// In other words…* b) *Zum Beispiel…// Mit anderen Worten...*
CONCLUSION
move 1 – preclosing
step 1 – summarizing a) *To sum up …// I'd like to finish by saying…* b) *Zum Schluß möchte/ soll man unterstreichen...* step 2 – indicating future directions a) *In the future….* b) *Wie wird es weitergehen*
move 2 - closing
step 1- thanking audience a) *Thank you for your attention* b) *Vielen Dank für Ihre Aufmerksamkeit* step 2 – inviting questions a) *If there are any questions…* b) *Wenn es irgendwelche Fragen gibt…*

Table 2 summarizes the main features which can be found in the introduction of LSP classroom presentations by indicating the interpersonal (audience-oriented) and discourse (presentation-oriented) elements in its framework. As the rhetorical structure of the body of the presentation is varied and depends on the specific task and communicative purpose, the moves and steps of this part of LSP presentations cannot be identified. However, this section of the presentation is expected to include functions like classification, organization of a segment, comparison or exemplification which are prominent in oral presentations. The linguistic and metalinguistic elements for realizing these generic features need to be taught in the classroom as students need to acquire a wide range of expressions that can be used to achieve these functions. For reasons of practicality, only a few of them could be included in Table 2. The concluding section of LSP presentations is presented in two moves (Preclosing move and Closing) in order to emphasize the role of the preclosing move. Our students frequently fail to deploy this move and finish the presentation abruptly by thanking the audience. The summarization step is particularly important as it provides the opportunity to accentuate and relate the main points of the presentation.

The process of implementing GBP in teaching oral presentations that we use in our practice is loosely based on the learning cycle proposed by Hammond et al. (1992: 1) building knowledge of the field; 2) modelling of the text; 3) joint construction of the text; 4) independent construction of the text. Our classroom practice starts with building knowledge of the genre: this may take the form of a classroom discussion about the context in which presentations occur and the students' experience with presenting or listening to presentations. The second stage is the modelling stage where a teacher may provide a model (or several models) of a good presentation to be later analyzed in terms of its structure and linguistic features. At this point, the moves and steps can be identified through various exercises and the lexico-grammatical features of the presentations are highlighted, illustrated and practiced. As part of this second stage students are encouraged to provide variations of the ways in which certain moves and steps can be realized as they are constantly reminded of the flexible nature of the genre. The original four-stage model (Hammond et al., 1992) is in our classroom practice reduced to three stages as the last stage is independent construction of the text, i.e. presentation (which can be accomplished individually or in pairs).

Conclusion

Presentation skills play an important role in engineering students' future professional environment and LSP classroom presentations provide an opportunity to equip students with the knowledge that will help them to successfully function in their chosen profession. This paper analyzed the research on the rhetorical and linguistic features of expert presentations with the aim of gaining knowledge which can help novice presenters acquire the necessary skills. This analysis has shown that the steps and moves in the introductory and conclusion sections can be identified as they have a clear rhetorical structure whereas the structure of the body of the presentation can show great variation depending on the context and communicative purpose. Future research attention may therefore focus on analyzing this segment of oral presentations.

The linguistic features of presentations have been found to include various lexical resources, which can have interactive purposes, provide discourse framework, establish relationships between presentation segments and generally structure effective argumentation. The use of metadiscourse markers is instrumental here for managing the information flow and helping the audience follow the presented material.

During genre–based classroom instruction students acquire a conscious understanding of how meaning is created in the context of oral presentation and become aware of the linguistic features which can help them to realize their communicative purpose. This generic knowledge can help them in their professionalization, i.e. ensure the necessary level of presentation skills that will enable them to successfully function in their future discourse community.

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The role of reading in learning languages for specific purposes and its change at the time of the Covid-19 pandemic

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Abstract
Reading is of the key significance as a way to transfer knowledge, both in education and it is most frequently cited favorite leisurely activity as well. It adds to the increase in grades in standardized tests in all subjects, improves comprehension skills, develops fluency, and increases general knowledge, as shown by Cullinan (2000). In studies conducted by Kidd and Castano (2013) it was shown that reading for pleasure improves empathy and enables the reader to achieve a better understanding of the mental states of other people. On the basis of this insight, we decided to check our students' attitudes towards reading. We also wanted to see if the students' reading habits changed at all due to the Covid-19 pandemic and how. To achieve that, we designed a questionnaire that was distributed among our students. We gathered information from 227 male and female undergraduate students of the Faculty of Mining, Geology and Petroleum Engineering and the Faculty of Food Technology and Biotechnology, University of Zagreb. The results have indicated that our students read less than expected from sources of questionable reputation and that although they do not spend much time on reading, they do enjoy it. They are conscious that reading is of utmost importance for their academic success, and the purpose of reading is to acquire general knowledge and broaden their own general culture. They also mention that their general reading habits have changed during the Covid-19 epidemic and that they started reading more.

Keywords: *reading; academic success; reading sources; general culture*

Introduction

Reading is a versatile activity. If we look at it from an academic perspective, it would be only fair to say that it is a gateway to success in education. Being the core element in the learning process, it also serves as a means of communication and language acquisition. Furthermore, it assists us in understanding and obtaining information that is to be used for our self-development and progression. (Duff, Tomblin, Catts 2015, Pieschl 2009)

Reading should start at an early age and this interest in reading should be sustained for a lifetime. In that case, the benefits of reading are countless. In this introductory part we are to mention just a few benefits.

Reading helps students enhance their fluency, it fosters their vocabulary and general knowledge. People with good reading skills are more likely to have better job opportunities.

If reading is to be considered a habit (a positive one, by all means), it must be carried out continuously and with persistence. Habits are measured in terms of frequency (how often we read), the quantity of materials (the number of pages read) and the time (spent reading). Thus, reading habits are closely connected to students' academic success. Proficient readers are successful students. (Delgado, Vargas, Ackerman, Salmerón 2018).

Recently, reading has been losing the battle against social networks. Namely, all recently conducted studies (Mikšikova 2019, Pavliša 2016, Medar and Kenchakkanavar 2015) have shown that students spend far less time reading than being on YouTube, Instagram, Twitter, TikTok, Facebook and other such social networks. Reading comprises not only college reading, but also extracurricular reading.

This paper summarizes the literature related to reading habits, the benefits of reading, the reading attitudes, the purposes of reading and the research conducted among 227 undergraduate students on their reading habits and attitudes. The aim of the paper is to verify the assumption of the authors that the students do not read extensively and that they use resources of questionable integrity.

Theoretical background

There are several different aspects of reading that contribute to the development of a well-rounded individual. It has long been established that knowledge can best be transferred by way of reading, which broadens vocabulary and enhances the fluency. Aside from the transfer of information, reading also serves other purposes, it is a method of relaxation. In this section, we concentrated on some of those issues in more detail.

Benefits of reading

Reading is a primary source of knowledge

Reading is, primarily, a source of knowledge. If we need to obtain information, we are going to turn to reading. It helps us build ideas and opinions about various subjects. Salabas (2008) notes that reading keeps us updated with information and knowledge about everything in the world. He claims that it has a positive effect on students' academic reading. Students should comply with reading and make it a daily activity, claim Veerabasavaiah and Shivappa (2018) and Schunk (2003).

Reading broadens vocabulary

When acquiring a foreign language, reading is essential. According to Nippold, Duthie, and Larsen (2005), one half of vocabulary knowledge is gained through reading. Good vocabulary helps us convey our knowledge to others (Duff, Tomblin, and Catts 2015). In order for them to acquire vocabulary, students must be exposed to different types of texts (Cunningham and Stanovich 1998). Consequently, their grammar and spelling expand, too (Strommen and Mates 2004).

Reading enhances reading fluency

Reading fluency must not be mistaken for language fluency. If a person reads on a regular basis, their reading fluency will increase. The term "Reading Fluency" was described by Lee and Yoon (2017) as the ability to read texts fast and accurately with little mistakes and effort as well as reading texts expressively with the correct pauses, articulation and phrasing. Students who are fluent at reading do not strive for meaning. They at once interpret the ideas and concepts contained in the read text. Therefore, there is a positive relationship between fluency in text-reading and reading comprehension (Kim 2015).

Purposes of reading

Students read for various purposes. They read in order to get simple information, to write, to critique texts and for general comprehension. However, we have decided to mention the two prevailing ones: academic reading and leisure reading. Academic reading helps students to interact with and make connections and judgements between texts, question contributions, and challenge inherent biases and arguments. In this way, academic reading is linked to the development of critical thinking. Leisure reading, on the other hand, can have benefits for students' concentration, vocabulary, reading and writing skills, and improving working memory.

Reading for academic purposes

Academic reading refers to the reading activities that are assigned by teachers, parents or tutors for the sake of gaining academic skills and knowledge (De Naeghel et al. 2012). This kind of reading can also be voluntary, when students decide to read to gain the above-mentioned goal. Academic reading involves the reading of very long texts for a specific subject area. However, this reading should be done critically (Isakson and Isakson 2017). It is a process that involves critical and cognitive abilities. In terms of academic reading, students mainly rely on textbooks, lecture notes, articles and online resources (Medar and Kenchakkanavar 2015, Özkan 2017). Online resources, such as online newspapers, magazines and various video resources have become increasingly popular in recent years.

Leisure reading

Leisure reading is also referred to as recreational (Mueller et al. 2017), pleasure (Sullivan and Brown 2015) or voluntary reading (van Bergen at al., 2018). In the case of leisure reading, a person chooses what, when and where they are going to read. It belongs to the group of out-of-school activities. Leisure materials are usually newspapers, fiction books, magazines, novels and comics.

Reading attitudes

As already mentioned, students read for various reasons: for knowledge, entertainment and academic purposes. They mostly read only when they have to (for the purpose of studying). A study was conducted among students of a polytechnic (Annamalai and Muniandy 2013). The purpose of this research was to examine the reading habits and attitudes of students. The respondents were students of Engineering and Business. The study showed that the students' interest in reading was low and that they enjoy technological activities much more than reading. They find reading boring and tedious and feel anxiety when reading. They also think that there are better ways to learn than by reading. In conclusion, their attitude to reading is negative.

In 2015, Erdem conducted research on reading habits and the attitudes of students of the University of Ankara (undergraduate students of Primary Education) and Erciyes University (undergraduate students of History Department). Both groups of students reported that they enjoyed reading immensely (literary works, historic, romantic, psychological genres), and they expressed their regret that they could not spend more time reading, due to their busy social life, the intensity of lectures, preparation for exams and the time they spend on the Internet. These students' attitudes toward reading were positive, both for academic and pleasure reading.

We have chosen these two studies since they, as expected, prove that students of technical sciences would have negative attitude to reading, whereas the attitude of those studying social studies and humanities was positive.

Research methodology

As we have already mentioned, the aim of our research was to ascertain whether our observations regarding the frequency of reading and the sources our students use while reading are true. For that purpose, we selected a particular group of participants and designed a data collection instrument, procedure and analysis method we believed would best serve our purpose.

Participants

The study focused on 227 undergraduate students of two faculties of the University of Zagreb, the Faculty of Mining, Geology and Petroleum Engineering (137 students) and the Faculty of Biotechnology and Food Technology (90 students). The authors decided to use the convenience sampling method because in 2007 Dörnyei said that convenience sampling may be used if the members of the target population meet specific criteria (which is true in this case – they are all undergraduate students of similar age and have achieved similar levels of education up until this point). Other reasons for using this method include proximity, availability and the willingness of the participants, and also its simplicity and frugality (the authors financed the study themselves).

The majority of students were of a similar age (215 of them were between 18 and 20 years old). In case of the gender distribution, the obvious discrepancy between sexes (149 females and 78 males) can be explained by the fields of study themselves, i.e., while Petroleum Engineering, Mining and Geology have traditionally been fields that employ mainly men (and therefore attract mostly male students), Food technology and Biotechnology are fields usually chosen by female students. The discrepancy in the number of participants is due to the fact that more female than male respondents were willing to participate in the study. The two teachers who conducted the survey are employees of their respective institutions with 20+ years of experience teaching, who were working directly with the students who were surveyed.

Data collection instrument

The students were surveyed using a questionnaire in Croatian designed by the authors and based on research conducted by various other authors (Erdem 2015, Bharuthram 2017, Zainol Abidin, Pour-Mohammadi and Lean 2011, Bensoussan 2009). We collected students' demographic data, such as age and sex. The questionnaire contained of 10 questions that were distributed into two sections. The first part dealt with demographics, the second part with the frequency of reading, the students' reasons for reading (their motivation), the kinds of materials they read and their origins, the importance of reading for the achievement of academic success, their feelings towards reading and the changes that have happened to their reading patterns since the onset of the COVID-19 pandemic. The questionnaire offered several possible answers to various questions and students had to tick the one answer they agreed with the most.

Ethical compliance

Before starting the research, both the authors presented the survey and its questions to their respective Ethics Committees, which reviewed the plans for the research and the questions asked and granted their approval. All the data was collected anonymously from survey participants and no personal identifiers were collected during the study. Before the beginning of the survey, all participants were made aware of the details regarding the study and the reasons for its conduct, they were free to decide for themselves if they wanted to take part in the study or not and free to change their mind and withdraw at any time. The completion of the survey was taken as implied consent.

The data collection procedure

The survey was conducted using Google forms. Students were sent the link to the survey via email and asked to participate in the span of one month during the winter semester of the academic year 2021/2022.

Data analysis

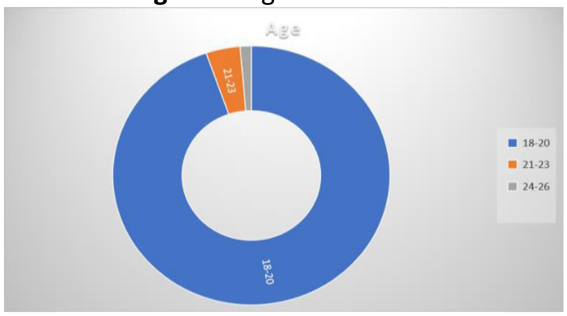
The data gathered by the survey was tabulated and analyzed automatically by the Google forms program. The data is shown graphically, using pie charts and tables to facilitate understanding and analysis.

Results and discussion

Respondents' demographics

The demographic data collected included age of respondents and their gender.

Figure 1. Age distribution



It can be seen in Figure 1 that the age distribution is quite uniform, i.e., that more than 90% of respondents are in the 18-20 age group. This was to be expected because the survey was mainly distributed among first-year students who are typically of that age.

Figure 2. Sex distribution

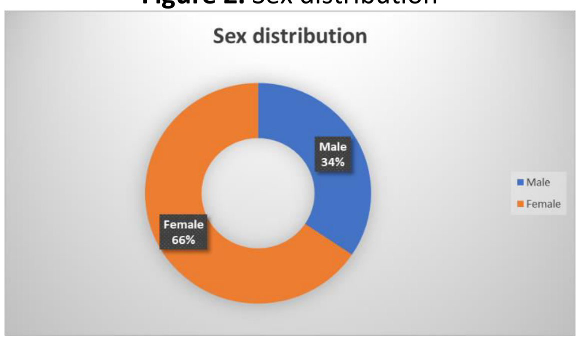


Figure 2 presents the distribution of respondents by sex. Although it is usually believed that gender distribution greatly depends on the field of study, i.e. that professions such as healthcare and nurturing are dominantly interesting to women (in this case, students of the Faculty of Food Technology and Biotechnology) while the technical field is traditionally regarded as a male domain (the Faculty of Mining, Geology and Petroleum Engineering), it has been documented that in the past decades a significant shift in outlook has occurred and that an ever growing portion of the student body is made up of women, while there are fewer men at all institutions of higher learning.

Survey questions

Figure 3. How often do I read?

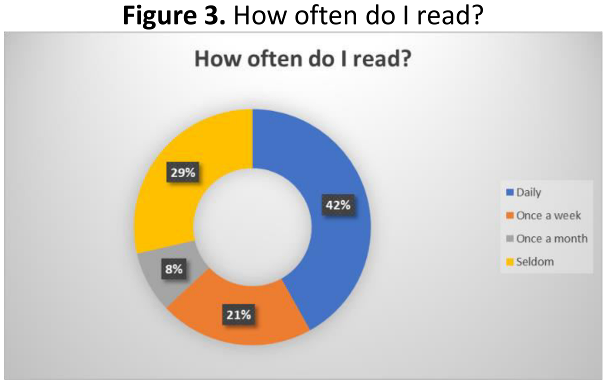
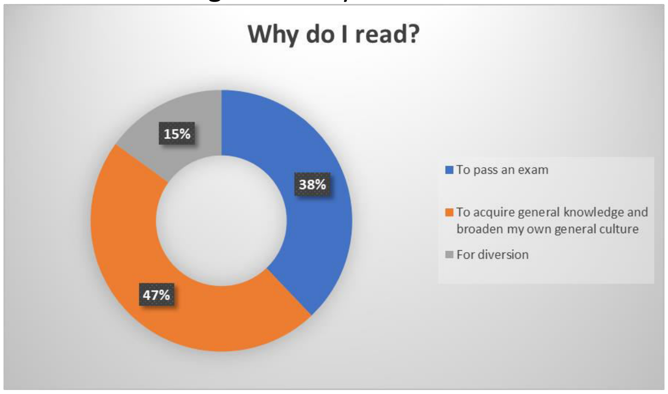


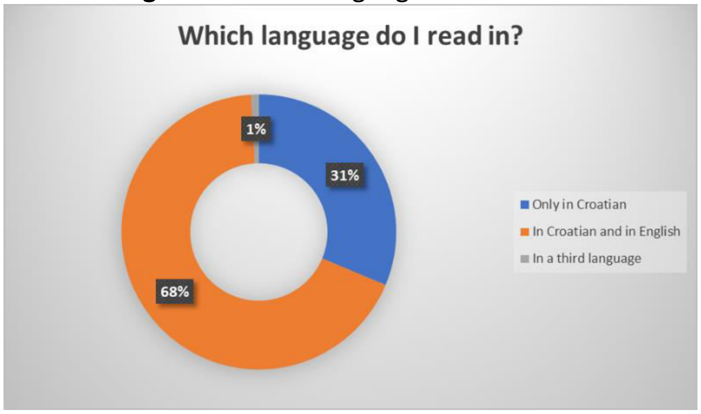
Figure 3 reveals the frequency with which the respondents read. It shows that most students read daily (42%). However, many have said that they only read seldom (29%) or once a week (21 %). The authors were very surprised to discover that as many as 8% read only once a month, which is disturbing since they are all university students whose basic tool of knowledge acquisition was expected to be reading.

Figure 4. Why do I read?



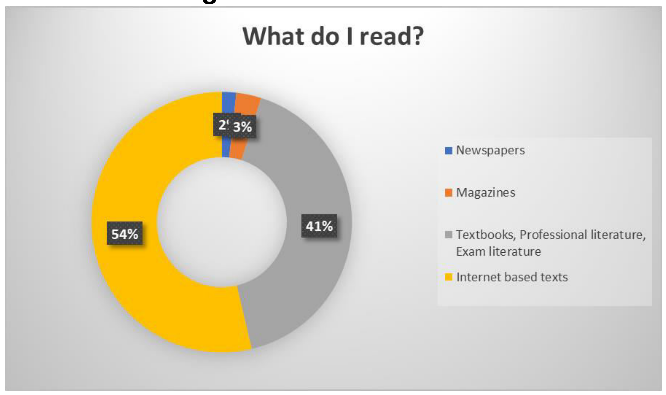
The majority of respondents report that they read to acquire general knowledge and to broaden their general culture (47%), as can be seen in Figure 4. However, the second most frequently cited reason for reading is utilitarian, i.e., the students read only to pass an exam (38%). These two reasons are generally most frequently cited as reasons for reading. The third reason for reading, as a means of diversion, was stated by only 15% of students.

Figure 5. Which language do I read in?



According to our survey, most of our students (68%) are bilingual when it comes to reading, they read in both English and in Croatian, as shown in Figure 5. This is not surprising since most of their exam literature is in English. However, there is a significant number of students (as many as one third or 31%) who only read in Croatian. A very small number of students (only 1%) read in some third language.

Figure 6. What do I read?



As we have already come to expect, the majority of respondents read Internet based texts (54%) while professional literature comes a close second (41%) and is followed by magazines (3%). Very few students read newspapers (2%). These results can be seen in Figure 6.

Figure 7. There are better ways to learn than reading

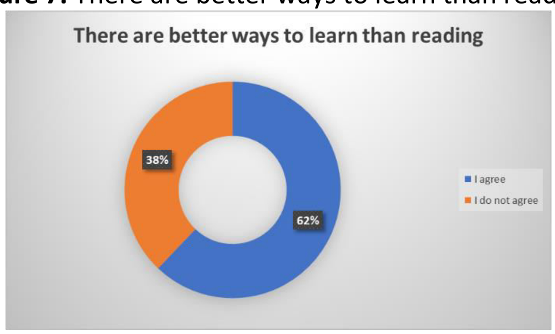
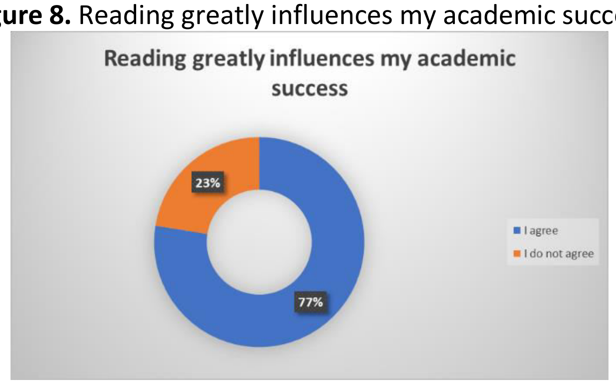


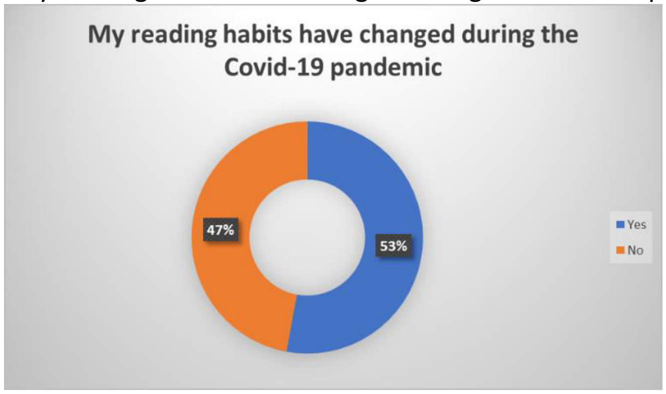
Figure 7 shows that most students believe that reading is not the best way to learn, but that there are better ways (62%).

Figure 8. Reading greatly influences my academic success



The results represented in Figure 8 show that students can clearly see the correlation between reading and academic success. As many as 77% answered that they believe reading does greatly influence their academic success and only 23% do not consider reading an important factor.

Figure 9. My reading habits have changed during the Covid-19 pandemic



A slight majority of students (53%) state that during the Covid-19 pandemic their reading habits have changed while as many as 43% do not recognize any change has taken place at that time, as shown in Figure 9.

Figure 10. During the Covid-19 pandemic I started reading…

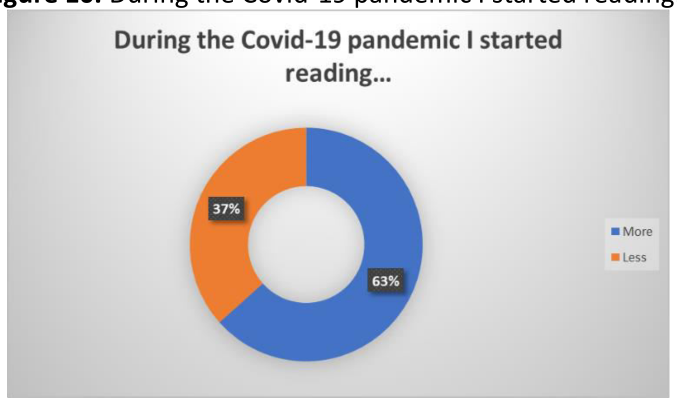


Figure 10 shows that more than half of our respondents (63%) state that they have started reading more while 37% say that they have started reading less.

The authors, working with generations of students have noticed a change in the reading habits of our students and have hypothesized that the change was caused by the advent of numerous and various digital technologies, as well as by the beginning of the Covid-19 pandemic. These two factors have caused our students to read less than before, choose sources of dubious quality (such as tabloids, Internet pages that publish information of uncertain and unscientific provenance, etc.), that their reasons for reading are mostly utilitarian and that they do not really read for pleasure. We expected the survey to show that the respondents started reading more during the Covid-19 pandemic period, which led to several lock-downs and isolation.

The results showed that while some of our hypotheses were valid, in some cases we were mistaken.

Question 1. How often do I read?

Thanks to our everyday contacts with our students, we got the impression that our students read less and spend their time on various other hobbies and pastimes. Such a change was not unexpected, because the literature review has shown the same pattern emerge throughout the world. For example, the same was determined by the study conducted by Kolhar, Kazi and Alameen (2021), which showed that: "… 97% of the students used social media applications. Only 1% of them used social media for academic purposes. Whereas 35% of them used these platforms to chat with others, 43% of them browsed these sites to pass time." (p. 1). However, less time spent reading and more time spent using social media leads to social networking addiction (Azizi, Soroush, and Khatony 2019), inability to concentrate (Firth, Torous, and Firth 2020) and poorer academic achievement (Rozgonjuk, Täht, and Vassil 2021).

The survey conducted among the students of our two faculties has shown that 42% of respondents read daily and 21% read once a week. That means that as many as 63% of students surveyed read more or less regularly. This is encouraging news but this still leaves around 37% of students who say that they read once a month or even less frequently, which is disheartening, especially if one takes into account the fact that they are all University students who should have well developed reading habits.

Question 2. Why do I read?

The students' motivation for reading was of great interest to us. We were under the impression that students read only if they are instrumentally motivated, i.e., to pass their exams. We were happy to realize that the majority of students read to gain general knowledge and to add to their general culture (47%) or for diversion (15%). This was excellent news because according to Cullinan (2000), "pleasure readers score higher on standardized tests in all subject areas, develop greater reading comprehension skills, have increased fluency, and display higher levels of general knowledge". Still, many students stated that their only motivation for reading is to pass exams (38%), which is in concert with the results of Akabuike's study conducted in 2012 that also confirms that students are interested in reading to pass quizzes and exams. However, these findings make us feel optimistic because it seems that our students do realize the importance of reading for personal development, the acquisition of general knowledge and broadening their horizons.

Question 3. Which language do I read in?

Most of our respondents said that they read in both Croatian and English (68%), and this is not surprising if one takes into account that a large portion of literature at both Faculties is available in English. However, it is worrisome that many of our respondents stated that they read only in their native language, Croatian (31%). This means that regardless of the great necessity to read in English (for example, to be able to pass their exams), many students still try to avoid reading in English and rather try their luck on preparing for exams from Croatian textbooks and lecture notes.

Only a very small number of students reported reading in some other language (only 1%).

Question 4. What do I read (newspapers, magazines, textbooks, exam literature and professional literature, Internet based texts)?

The majority of students said that they mostly read Internet based texts (54%) while professional literature comes in second (41%). Magazines are mentioned as their third choice (3%), while only 2% of respondents read newspapers. This means that the majority of students surveyed favor reading for leisure and recreation, which is good news due to the fact that reading is considered to be good for a person's mental health. It reduces problems such as stress, anxiety, and depression, some of the most frequently cited problems, as noted by Blanco et al. (2008). The same was established by Croatian authors (Bezinović et al. 1998). Leisure reading also improves reading skills and academic performance in general (Wang et al. 2020).

Question 5. There are better ways to learn than reading.

Most of the students believe that there are better ways to learn than reading (62%), which can be easily understood in this day and age. Today, the majority of most people get their information by talking to their peers, watching TV using various Internet services (such as YouTube, Instagram, Facebook, Twitter, TikTok and others) or search engines. This is a quick and easy fix for current times, when life has become so hectic and fast-paced and very few have time enough to devote to reading and gaining insight into problems using such old-fashioned methods. Modern-day services provide quick information and sometimes different, easier-to-understand explanations of complicated ideas but not deep insights. Most of the information provided by such services is not backed by science, checked by the scientific community and they do not provide serious, in-depth information about a scientific topic. This became very clear during the Covid-19 pandemic.

When faced with study subjects they find difficult to comprehend (such as, in case of our students, Mathematics, Physics, Mechanics, etc.), many students resort to Google and other search engines to find short articles or videos which help them understand the topic at hand. However, research shows that most students, particularly undergraduates, usually choose only sources that are not difficult to understand, easy to find and available without much effort (Tolar-Burton and Chadwick 2000). Due to those criteria, the students do not evaluate the quality of such sources critically and do not select (or even manage to find) sources and information that will provide them with up-to-date and true information (Brand-Gruwel, Wopereis and Vermetten 2005, Monereo, Fuentes and Sànchez 2000). The authors believe that the fact that this is a problem of an entire generation points to a systemic issue, i.e. that the current generation lacks the ability to focus on reading and to read for sustained periods of time. Such an opinion is backed by research, conducted by Smallwood, 2013, who discovered that students who read print materials tend to mind wander less and comprehend more compared with students who read using digital technology. Delgado et al. (2018) also pointed to the *shallowing hypothesis* which could explain on-screen inferiority. This hypothesis was postulated by Annisette and Lafreniere (2017) and it states that individuals who are exposed to large amount of daily reading using digital media relate with textual information superficially. This, of course, is changing the way we process information. Such digital reading also influenced the students' ability to focus on a task as was proven by studies by Baron (2015) and Wolf (2018). Such poor ability to focus on a task often leads to poorer metacognitive calibration, which is the accuracy of the learners' perceptions of their own performance (Pieschl 2009). This is exactly what the authors have noticed in their work with their students and this is why the authors in general do not agree with the students' statements that there are better ways to learn than by reading.

However, sometimes, depending on the profession, learning is achieved by doing. That is why all of our students have mandatory practices where they learn their future professions hands-on, in real time and real circumstances. Still, for them to be able to do that, the students must be prepared and that is, in the authors' opinion achieved by reading.

Question 6. Reading greatly influences my academic success.

Although our students believe that there are better ways of learning than reading, the majority (77%) is conscious of the correlation between academic success and reading. This was expected because our students have been made aware of certain facts of life pertaining to academic success that were also corroborated by a study conducted by Cullinan (2000), who discovered that pleasure readers possess greater comprehension skills, their fluency is increased, and their levels of general knowledge are higher. Starting from elementary school, pleasure readers usually obtain significantly higher grades than children who do not read. Children who read usually become more creative and open, they build their knowledge base and are able to focus and concentrate better. Readers develop better critical and analytical skills, necessary for university studies because they enable them to separate the important from the insignificant, and have better memory retention skills than students who do not read, as well as a larger vocabulary (Duff, Tomblin and Catts 2015). A study by Berns et al. (2013) shows that in days following reading sections of a book, their brain was showing increased connectivity in areas responsible for the receptivity for language as well as physical sensation and movement. This is of key importance for academic success, and particularly significant at the university level. However, as many as 23% of respondents choose not to read and do not consider reading to be important for the achievement of their academic goals. This fact is very difficult to explain although one of the possible reasons for this was suggested in an old study conducted by Irving (1980). The study discovered that most respondents do not associate reading and pleasure. Aside from that, as was mentioned before, today's students lack the discipline and the ability to focus on a task for longer periods of time, which is what reading requires. This, in the authors' opinion, is caused by the advent of digital reading tools and the Internet who support skimming instead of in-depth reading. However, regardless of all of these setbacks, the authors are encouraged by the fact that the majority of students understand the significance of reading for academic success.

Questions 7 and 8: My reading habits have changed during the Covid-19 pandemic / I started reading more/less

As the data shows, the reading habits of our student have changed during the Covid-19 pandemic and 53% of students say that they started reading more. This did not surprise the authors because the beginning of the Covid-19 pandemic (at least in Croatia) was followed by an increasing feeling of panic and doom, arousing anxiety in most of us. On top of that, Croatia was struck by a series of relatively strong earthquakes starting from March 2020, that further exacerbated the feeling of fear and helplessness and many people found solace and at least some escape from reality in reading. Due to numerous lockdowns, we were all unable to go out, meet our friends and family so reading seemed a natural and reasonable way to escape our reality. The number of those who stated that they started reading more increased by 63% which is very different from the results of the study conducted by Lukačević, Petr Balog and Radmilović (2021), which determined that the Covid-19 pandemic did not significantly influence the reading habits of their respondents. Perhaps a way of explaining such a difference lays in the demographics of the respondents – while the study conducted by Lukačević et al. focused on public library card holders in the Osijek-Baranja County (who are of different ages, socio-economic status and educational levels), our study was centred around students in the country's capital who are all of similar age and similar educational level.

Limitations and future research

Although the authors believe that this study speaks volumes about their students' reading habits and attitudes, it also has its limitations. Although the study was conducted on a large number of respondents, the authors were severely limited by their lack of funds and thus unable to conduct a serious statistical analysis.

Another limitation of the study was that, due to the lack of funding, it did not research the correlation between the sex of the respondent and the answers to the questions. Without a doubt, it would be quite interesting to see if a difference exists between the views of female and male respondents (the authors expect that there would be significant differences).

Hopefully, in the future, other studies could be conducted that could more closely focus on particular faculties or compare the situation at faculties whose fields of study are more closely related. It would also be interesting to check the differences in views regarding reading between students who attended comprehensive high schools and those who come from trade schools.

Conclusion

Our survey has corroborated many of our assumptions, i.e., that our students do not read very often, although the majority is well-aware of the significance of reading for their academic success. Many are instrumentally motivated for reading and read, in their own words, only to pass their exams. However, taken cumulatively, more than half read to gain general knowledge, add to their culture and for diversion. This means that many of our students are the so-called "pleasure readers", who are aware of the benefits of reading. This makes us feel hopeful because it shows that they are aware of the importance of reading.

The majority of students read in both Croatian and English, which is to be expected since in academia English is *lingua franca.*

Most students read texts acquired from the Internet, relying on the first results that the search engine produces. This points to a potentially serious problem relating to the quality and relevance of search results and selecting sources and information that will provide current and truthful information. This also points to our students' shorter attention spans, poor critical thinking skills and the fact that they are incapable of deep, sustained reading because the Internet offers short and superficial explanations for deep and complex issues. Unfortunately, such findings only corroborated the authors' initial assumptions.

These results are in accordance with other studies about reading in Croatia (Lukačević, Petr Balog, and Radmilović 2021, Pavliša 2016, Kvaka – Ured za kreativnu analizu (2022)). Such a situation is a matter of concern because the situation where university students read just to pass exams or use the Internet as their primary source of information is troubling. If the future leaders of society do not read, cannot sustain focus for longer periods of time and are unable to evaluate information critically, this is very worrisome because a society like that will not be able to keep up with modern, developed and scientifically advanced cultures and countries. Members of such a society who have mastered these skills will leave and look elsewhere for better living conditions, unwilling to remain in a society populated by poorly educated individuals, unable to critically evaluate events and easily fooled by "fake news" and platitudes. This will inevitably lead to the ultimate destruction of the said society. Because of that, it is of crucial importance for the government and the entire society to invest as much time and means possible into promoting reading from an early age.

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English for Engineers – A book review

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English for Engineers is a coursebook written and designed by Sandra Stefanović, an Assistant Professor at the Faculty of Engineering, University of Kragujevac. The publication is primarily intended for English language courses being attended by the first-year students of the Faculty of Engineering, but it addresses various engineering topics thus aiming at wider professional and non-professional readership aspiring to master English vocabulary, morpho-semantics and syntax used in English literature for future engineers.

The coursebook encompasses 154 pages and consists of sixteen units as conveniently displayed in the *Table of contents* presented at the sheer beginning of the publication. The Units cover different aspects of engineers' craftsmanship from basic and mainstream themes such as *What is engineering?* (Unit 1), *Mechanical engineering* (Unit 2), *Military engineering* (Unit 5), *Engineering materials* (Unit 6), or *Industrial engineering* (Unit 7) to more up-to-date topics such as *The History of software* (Unit 3), *Software engineering* (Unit 4), *A drone* (Unit 8), *Renewable energy* (Unit 9), *Bitcoin* (Unit 10), *Robotics* (Unit 11), *Bioengineering* (Unit 12), *Electric vehicle* (Unit 13), *Sustainable engineering* (Unit 14), *Engineering of the future* (Unit 15), and *Industry 4.0* (Unit 16).

Each unit consists of the appropriate reading material abundant in both professional jargon and useful data on different engineering subjects. The reading texts conform to the communicative method of language teaching and they are a means of providing feedback information to the teacher and student concerning the scope of knowledge acquisition. The texts are versatile and are followed by reading comprehension exercises, which methodologically support learning techniques of foreign language acquisition. These exercises cherish divergent forms ranging from answering the questions related to the text over claiming statements true or false to finding and matching proper definitions and making written and oral paragraph summaries. Vocabulary tasks (synonyms/antonyms, word formation and alike) are creatively designed to continuously check learners' development through practice whereas pair/group discussions on contemporary topics foster individual linguistic potential. The Units are well-crafted and the presence of grammar elements tested through the Units is balanced. Therefore, this coursebook for academic students fully meet their needs and the course requirements when judged from the target user's perspective.

Additionally, in order to spark and maintain students' attention, each unit is uniquely and innovatively accompanied by the section *Let's laugh* offering amusing perception of engineering lifestyle and experience but, at the same time, requiring significant English in engineering knowledge.

Extensive *Reference* list succeeding the Units is followed by the section named *Grammar in a nutshell*. This valuable input to the publication offers the summary of basic grammar issues processes in the scope of Units. It provides a concise but practical overview of the next English grammar instances: the uses of articles, comparison of adjectives, verb agreement, modal verbs, review of tense system, constructions with accusative and nominative, gerund constructions, conditional sentences, the passive form, the sequence of tenses, direct vs. indirect speech, spelling rules and the list of irregular verbs. The section *Grammar in a nutshell* functions as a helpful, handy, and easily accesses English grammar reminder which favorably closes this comprehensive and complete guide to English in engineering.

In summary, the publication successfully achieves its own goal as not only does it contribute to students'understanding of ESP and lexicon and grammar but it also provides new linguistics insights into relevant engineering subjects. Its thorough approach to basic and upgraded levels of English language in engineering grants coherent and diverse outline of ESP vocabulary and grammar. One of the merits of this publication is its international character – it can easily and undoubtedly be employed in the mastering of the English language at any Faculty educating engineers of various profiles. The coursebook *English for engineers* can serve as far-reaching English language in engineering manual the future engineers can benefit from in their forthcoming careers.

The 11th International language conference - The importance of learning professional foreign languages for communication between cultures

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The conference was held on the 16th and 17th of September 2022 at the Faculty of Technical Sciences, University of Novi Sad in Serbia. This was the 11th meeting on this topic and the first one to be organized in Serbia, as the conference, which had originated at the Faculty of Logistics in Celje, Slovenia was previously held in Slovenia and Croatia. After a two-year delay due to the COVID-19 pandemic, it was organized in person. The regular attendees from the region were delighted to meet again in the pleasant surroundings of the rectorate building at the University of Novi Sad campus. In addition to presenters from Slovenia, Croatia and Serbia, the conference also attracted participation from Spain and Turkey.

The conference brought together language professionals and researchers who work in the area of teaching languages for specific purposes at the tertiary level. The conference invitation brought up topics such as the role of LSP in the 21st century, the analysis of digital genres and the use of digital tools in LSP classes, the preparation of materials for an LSP course and teacher development as well as the intercultural dimension of LSP teaching. As these topics were presented, it was clear that the participants' research interests and the theoretical and practical issues that were discussed represented numerous common interests and shared ideas. The topics spanned diverse areas of LSP teaching ranging from aviation and forensic science to medicine and technology, provided interesting examples of classroom practice and included talks on various individual and group research projects.

The first-day plenary talk by Agnes Pisnski Peterlin from the University of Ljubljana, Slovenia, discussed academic discourse in cross-cultural contexts and focused on the synergies between LSP and translation. Although translation-related activities are typically avoided in LSP classes which tend to promote a monolingual classroom environment, Pisanski Peterlin argued that LSP students frequently find themselves in situations that demand translation skills. For that reason, this plenary talk discussed how basic translation skills can be incorporated into an LSP curriculum. The presenter illustrated how this can be achieved taking into consideration the translation-related needs of LSP students. In addition, she stressed the role of analyzing the corpus of translated academic discourse and its application in developing relevant teaching materials which should aid in addressing cross-cultural rhetorical differences in the translation of academic texts.

The second-day plenary by Bojana Petric from Birkbeck, University of London, focused on developing research-based teaching materials for LSP. It addressed the gap between the common practice in the area of LSP of developing in-house teaching materials tailored to meet the specific students' needs and the lack of guidance for LSP practitioners on how to approach this task. It discussed the key issues in developing research-based LSP materials, their benefits and limitations. The talk particularly focused on the issues in communication in academic settings related to students' awareness of communicative practices as well as on some non-linguistic issues surrounding language use in an academic context.

As for the group sessions, 26 papers were presented in eight blocks, in two days. A total of four blocks were scheduled for the first day of the conference. Some interesting and relevant ideas were raised in the authors' talks. In the first session, the authors discussed using digital resources as gamified procedures in higher education. This was followed by a presentation on course evaluation at the tertiary level. Finally, the third talk presented a language teacher's perspective on problems related to professional language teaching. In addition, in the second session, the authors discussed the use of legal English at the tertiary level and the use of audio and video lectures in LSP courses.

After lunch, there were two more blocks with six papers. Several talks focused on more practical classroom-based topics such as developing transversal competencies, structure and language of presentations, the correlation between EFL teachers' motivational behaviour and students' motivation, and finally teaching English nominal compositions in ESP courses. Other talks dealt with more theoretical issues such as postmodernism, globalization and the Internet generation and as well as mechanisms of rhetorical judgment.

The second day of the conference saw 14 papers, presented in four sessions. Two blocks, each with three papers were scheduled for the morning session. The first presentation focused on the function of reading in learning languages for specific purposes stressing its crucial role in developing professional language competency. In addition, the second talk of the first session examined the assessment criteria for ESP translation projects. This session concluded with a presentation on the benefits and drawbacks of undergraduate academic writing courses. The second session which discussed topics such as the verb aspect errors in aviation English, discourse markers in oral presentations and graduate students' use of transition markers also generated some interesting ideas.

Following a brief break, participants had the opportunity to attend the poster session, where five papers were presented. These covered diverse topics: the use of discourse markers in scientific papers, the development of engineering students' presentation skills, phrasal verbs, the role of the translation stage in communicating engineering discipline knowledge, and the analysis of engineering students' translation errors.

Eight papers were presented in the last two sessions. The first session's presenters concentrated on the use of technology in education, debating the advantages and disadvantages of using Grammarly software in students' writing, virtual international collaboration, Powtoon as a formative assessment tool, and, finally, the new normal in the ESP classroom. Finally, the authors in the last session discussed topics related to medical English, the acquisition of phrasal verbs, collocations in bilingual ESP dictionaries and code glosses in students' writing.

In conclusion, it can be said that this conference was a great success with plenty of opportunities to network and disseminate ideas. Above all, it ensured the continuity of a conference which always provided a positive and stimulating atmosphere for open discussion.

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ERL Journal – Scope Major

Key premise. **The educational role of language, reaching far beyond school(ing), is determined by multiple aspects relating to culture, methodology and/or personality**. To be suitably comprehensive, studies blending educational with linguistic studies need to comprise all these aspects.

LANGUAGE and SCHOOL	LANGUAGE and CULTURE
LANGUAGE and METHODOLOGY	LANGUAGE and PERSONALITY

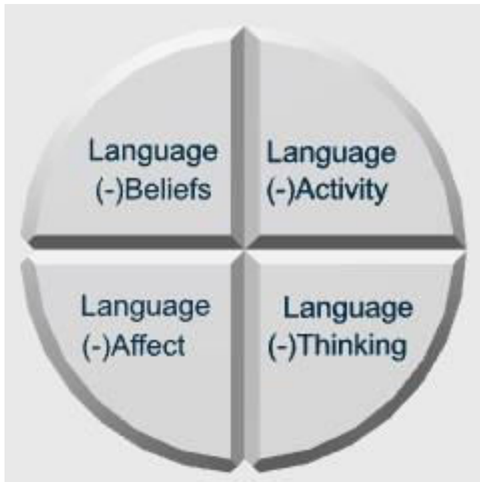
General rationale. Language lies at the heart of schooling, culture, (learning and teaching) methods, and personality – thus underlying education on the individual and on the social level. Its social existence determines its experiencing by an individual person and vice versa. Both these levels matter when it comes to learning and teaching methods as well as schooling as a whole. Socially determined and individually experienced, language shapes culture and education, and, from an individual perspective, it defines a person's place in the world and defines the world in which a person is placed.

Specific issues. Accordingly, ERL Journal welcomes papers addressing issues such as: language of schooling, bilingual education, language identity, intercultural competence, discourse analysis, children narratives, personal constructs, language in special education, transversal skills, language mediation, academic language, elicitation, plurilingual teaching, CLIL, functions of language, etc.

Expected outcome. Systematization of knowledge concerning the educational position of language; aggregation of empirical findings pertaining to social and cultural determinants of how language serves education; development of interdisciplinary educational and linguistic studies; recognition of problems calling for research and discussion of ways of putting language theories into practice.

ERL Journal – Scope Minor

Key premise. **A person's education is determined by how language operates on four levels – beliefs, activity, affect and thinking**. To be maximally educational, the experiencing of language by a person comprises these four dimensions, which implies a need for their comprehensive studies.



General rationale. How language affects a person's education depends on multiple axiological, psychomotor, affective, and cognitive factors. For instance, what a person thinks of language (e.g. on whether it is worth speaking or not) and how much a person speaks determines that person's mental faculties. Conversely, how a person understands a given issue (as well as how s/he feels about it) impacts on how interesting utterances s/he produces. Hence, there exist relationships between language and all the aforementioned educational domains.

Specific issues. Accordingly, ERL Journal welcomes papers concerning issues falling within one or more of the four domains, such as: status of language in school curricula, language of textbooks, language activity of children or grown-ups, stages of language fossilization, argumentative skills, language learning styles, verbalization of knowledge, approaches to oracy, personal experiencing of language skills, language image of the world, cognitive discourse functions, language reflectivity, etc.

Expected outcome. Collection of theoretical proposals and empirical data supporting learner-oriented educational practice; exploration of the relationship between language and four educational domains; detection of factors determining learners' language identity/personality; accumulation of data providing assistance in construction of language-grounded educational systems.

ERL Journal *is designated for papers on cross-disciplinary, educational and linguistic, issues. It is meant to address (I) the position of language and how it is put into practice across different schools, cultures, methods and personalities, and (II) the experiencing of language by learners in terms of their language beliefs, activity, affect and cognition. ERL Journal includes theoretical and empirical papers, presenting qualitative and quantitative approaches. Resting on the overarching premise of language shaping our reality and education (assignment of meanings to the world and subject matter learnt), it ultimately aims to unravel this process and to boost the position of language in education.*

ERL Journal is international, interdisciplinary, peer-reviewed, and double-blinded.

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