The Shift to a Queer Pedagogy in the Italian-Language Classroom

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Abstract
Instructors of Italian are tasked with teaching not only the language, but also the culture. However, critical matters such as sexual identity are frequently not addressed in the Italian-language classroom. Current Italian-language pedagogy solely focuses on language-acquisition proficiency via heteronormative discourses, ignoring the more-diverse reality of Italian culture. This article aims to showcase how using a queer pedagogy based on queer theory can affect learners' language acquisition and understanding of Italian culture. I used memoing and personal experiences as an Italian instructor to analyse the related literature. I propose that current pedagogy and curricula silence the lesbian-gay-bisexual-transgender-questioning/queer-intersex-asexual (LGBTQIA+) community, causing exclusion, anxiety and sometimes harassment from others. Open discussion through queer pedagogy would create critical conversations, allowing for the inclusion of all learners and topics. Italian instructors should promote these conversations, question the standard Italian-language pedagogy and use materials that are inclusive of LGBTQIA+ members.
Keywords: Italian, queer pedagogy, Foucault, LGBTQIA+, language education

Introduction

Sexual identities within the cultures of Italian-language learners are frequently not addressed within the Italian-language classroom. Discourse, knowledge and power are linked, wiping certain learners' identities from the curriculum (Coda, 2018). Italian instructors must become conscious of differing identities and critique the field's accepted knowledge. Matters of race, ethnicity, class and, in this case, sexuality (Pennycook, 2001) within the scope of Italian culture (Formato, 2018, 2020a) must be managed progressively because language plays a role in forming, preserving and shifting conventions. This can be observed in Italian, where the grammar reflects traditional gender inequalities in power (Tosi, 2001). For example, adjectives take a masculine or a feminine ending depending on the gender of the nouns they accompany. In cases of mixed-gender items, the masculine form predominates regardless of the quantity of items of either gender.

Language pedagogy introduces learners to linguistic and cultural aspects of the target language while encouraging reflection on comparable elements in the learners' languages and cultures. Thus, learning Italian fosters exploration of Italy's cultural norms. However, significant issues have been avoided in favour of sanitised topics (Osborn, 2006), especially considering sexual identities (Nelson, 2006). Thus, lesbian-gay-bisexual-transgender-questioning/queer-intersex-asexual (LGBTQIA+) learners' identities often are rendered invisible in the curriculum and materials (Camicia, 2016). Heteronormativity, the societal structures that perpetuate heterosexuality as natural and the norm (Atkinson & DePalma, 2008), is pervasive in classrooms, materials and pedagogy (Paiz, 2015). Unfortunately, not enough is understood about how the junctions between LGBTQIA+ identity and Italian-pedagogic discourses may affect language

acquisition and practice. This lack of understanding perpetuates heteronormative stereotypes that generate continual invisibility of LGBTQIA+ people in classrooms. It also implies that instructors may have trouble discovering ways to establish inclusive spaces for these learners (Paiz, 2019).

Although Italian-language pedagogy has the potential to disrupt normal practices (Formato, 2018, 2020b) and invoke 'a critical and self-reflective discourse for both students and teachers' (De Vincenti et al., 2007, p.67), Italian instruction often centres on proficiency. Instead, this standard practice should require critical reflection regarding Italian-language learning and pedagogy saturated with dominant assumptions and binaries (Coda, 2018). Current pedagogic constructs in Italian classrooms exert remarkable ideological dominance by instructing parts of Italian culture considered vital and useful to coming generations (Meyer, 2007). Therefore, instructors have the unique task of thwarting these socially constructed and permitted classifications. To offset these depictions, instructors should reveal and dismantle the concealed heterosexist curricula and learning materials.

The status quo provides no space for perspectives outside the norm, whether through the arts or everyday life. It actively erases these perspectives, sending a dark message of unwelcomeness. Sexual identities are essential elements of social identity that transcend sexual attraction and affect other aspects of lived experiences. In relation to language pedagogy, this notion suggests that sexual identities may become relevant in the classroom and influence the language-learning and -acquisition processes (Paiz, 2019). This article explores theoretical underpinnings for the use of queer pedagogy in the Italian-language learning classroom.

Methodology

I analysed literature in various fields relating to (1) queer theory, (2) queer pedagogy and (3) queer pedagogy in the language classroom. Sources ranged from unpublished theses to seminal works in books and peer-reviewed articles in international scholarly journals. Narratives used in this review were chosen based on their relevance to developing a critical means of teaching language and culture and presenting queer pedagogy and language teaching in a historical perspective. I aimed to determine key articulations and clusters of relevancies to construct a framework applicable to acquiring Italian. One significant analytic strategy I used was memoing – construction of a conceptual bridge between the written research and concepts used. I kept an audit trail using a journal to document memos that recounted my thoughts and recorded the basis for my choices during the research process (Merriam & Tisdell, 2016). In addition to these thorough records of how I examined and understood the data, I reflected on my experiences as an Italian-language instructor (Lincoln & Guba, 2000). Consensus across these multiple areas suggested a paradigm of queer pedagogy as a tool for a critical Italian-language pedagogy, as presented in the next sections.

Results

Queer Theory

Queer theory is principally about confronting normative and static perceptions of sexuality. It contends that sexual identity is neither static nor singular, but variable and ever-changing (Kissen, 2002). This perspective calls on Italian instructors to recognise and encourage sexual orientation and gender as notions that are fluid — not stagnant and permanent, as shown in language-learning materials' hegemonic reproductions of accepted familial and societal norms. This is a call to make these confrontations through

critical pedagogy in Italian-language acquisition spaces. This perspective can be utilised as an investigation-centred method. It focuses on the presence of people in Italy, its diaspora and learners of all sexual identities studying the language and can critically examine and problematise language materials and information about social constructions as they relate to sexual identities. It also works to reduce the labelling and stigmatisation that result from categorising.

Italian instructors are encouraged to make a difference in their classes by vigorously examining the significance of words, expressions and ideas that might uphold the heteronormative status quo. Language is influential and encourages action – wielding a significantly genuine force in learners' lives (Burr, 2003). Queer theory necessitates Italian instructors break from pedagogic paradigms founded on rigid, inflexible and dualistic beliefs of gender, sexuality and sexual orientation. It is an essential expansion on critical pedagogy, social constructionism and emancipatory education, calling on instructors to adopt a queer pedagogical outlook.

Italian instructors have a dynamic position identifying experiences that encompass sexuality, sexual orientation and gender for their learners. The position demands that instructors assist in revealing inflexible standardising classifications, such as man/woman, masculine/feminine, learner/instructor and gay/straight (Meyer, 2007). Instructors must develop open discussion with learners outside these binaries. These discussions produce more reasonable, relevant, safe and socially unbiased atmospheres. To attain both sexual- and gender-identity justice, even small measures can make a difference. Instructors should allow time to discuss issues of homophobic, heterosexist, socially proctored gender norms and the subtle but sinister impact that language – in this case Italian – can have.

Queer Pedagogy

Italian instructors in the postmodern North American context are asked to work in hyperdiverse settings (Zacko-Smith, 2009). *Queer pedagogy* reflects the construction of knowledge, spread of ideas and crescendo of humans rationally, ethically and publicly. This queering of the classroom constructs spaces where discourse and critical conversation involving all identities – sexual or otherwise – and their sociocultural significance can be conducted in considerate ways (Paiz, 2017). It necessitates that Italian instructors be proficient in multiculturalism and diversity, both outside the context of the learning space where Italian is taught and within the complex realm of Italian culture. Instructors must submerge themselves in the world as it contemporaneously develops and advances around them and not perpetuate fossilised, hyperstereotyped constructs of cultural monoliths. They also must acknowledge their position as advisors, redefining experiences determined by requirements for social justice and equity to characterise truth for Italian-language learners (Formato, 2018). To overlook these constraints suggests that instructors will become archaic, unsuccessful, detrimental and socially discriminate (Formato, 2020a). None of these are adequate results for those who are genuinely dedicated to the vocation. Instructors commit a disservice to themselves, the profession, future learners and society by allowing spaces where unacceptance and conventional ideas are upheld.

Queer pedagogy affords instructors change from understanding LGBTQIA+ learners as 'other' to viewing sexuality without the use of firm markers and associated forming terms that could be instruments for harassment, discrimination and violence. Instructors should be aware of queer theory and conscious of its capacity to encourage acceptance and assist their teaching spaces. This begins by reconstructing the narrative of Italian speakers, dismissing stereotypes and offering images, samples, media and other items that depict

the diverse reality of those who speak Italian. Queering heterosexual Italian instructors involves neither a shift in nor a demonstration of their individual sexuality. Instead, it requires them to be trained, proactive in describing the status quo and reflective on their heteronormative views regarding Italian-language pedagogy.

The toxic impacts of homophobia and heterosexism should illustrate to instructors how queer pedagogy can assist converting classrooms into spaces of language acquisition and critical consciousness. Current language classes do not take a stance on queer issues. However, a neutral stance is one of silence, ignorance and violence toward the queer community because recognised social norms, whether implicit or explicit, can lead to harassment. They can maintain a social order that favours conventional, heteronormative identities and performances over disregarded ones (Meyer, 2007).

Assuring the language used and materials selected for lessons do not support either sexual- or gender-identity status quo is a change all instructors can make. Such actions, even if implemented on a micro level, function to break down the normalisation of collectively manufactured classifications and establish more adaptable, peaceful and just agreements in their place. Furthermore, educating learners about LGBTQIA+ concerns can dismantle the power of binaries in both Italian and the learners' culture.

Queer Pedagogy in the Language Classroom

Practically every field has a transdisciplinary nature (Stokols, 2006), and Italian-language pedagogy is no exception. Classrooms are partly accountable for defining and reinforcing societal norms. In Italian-language classes, this may be evident in the sexist language, traditional notions of family, conservative representations of cultural and historical perspectives in pedagogic materials and lack of LGBTQIA+ depictions and contributions. Nature and logic must be reiterated within a society if its hegemony is to be maintained. Intrinsic in what the culture encourages, this narrative is perpetuated in all aspects of society, including the Italian-language classroom (Formato, 2018, 2020a). Italian instructors are assumed to either maintain the status quo or to define what is categorised as 'normal' in their teaching spaces and, thus, in greater society.

Italian-language instructors will undoubtedly have LGBTQIA+ learners in their classes. If instructors care about treating learners justifiably, then they are obligated to become informed on matters that are part of learners' everyday lives and identify aspects of queer culture – past and present – in Italian language and history. Italian instructors are a component of learners' everyday lives and must meet the shifting ways that learners both identify and convey themselves. I argue that this is currently not represented in Italian-language classes.

The frameworks that outline gender and sexuality are becoming increasingly distorted. Historically, the LGBTQIA+ were concerned with social acceptance and lessening the violence that arose from their struggles. Sexual orientation, gender and gender-identity matters started from the fight for recognition in the 1960s through the 1980s. It has since developed into a flourishing redefinition of sexual identity and sexuality itself. Today, matters that the LGBTQIA+ community previously could not afford to worry about can now operate openly and dynamically, including matters in the classroom.

In North America and Europe, the LGBTQIA+ population and their concerns have become more prominent and conventional. Popular media and the internet have provided them a degree of legitimacy. Society, including the Italian-language classroom, has reached an era where identities must be honoured and seen as invaluable instruments that augment globalised humanity. Social differences should be recognised, destigmatised and used in encouraging the approaches manifested in the realm of language pedagogy.

Heterosexuality is the presumed social standard in dominant society. Queer pedagogy invites instructors to consider learners without assumption, reproducing what is considered 'natural'. A prevailing culture conveys messages of subservience at various degrees; this holds true for both Italian and the learners' own cultures. In this light, Italian instructors have an imperative role in the perception of Italian culture and how learners may relate to their own cultures. For example, an instructor might assume that a learner has a mother and father, the heterosexual stereotype of a family. This supposition consequently sends a message to everyone in the class concerning what is standard, predictable and recognised by society. This notion, adopted by instructors and incorporated into teaching materials, can trigger anxiety and oppression. Texts often devote entire chapters on this subject with limited (if any) mention of families that do not meet the definition of the typical family, thereby invalidating learners and certain aspects of the Italian, as well as the learners', culture.

Foucault

Theorists such as Michel Foucault (1980) demonstrated how language can be used to dominate and control. According to Foucault (1978/1990), discourse is constructive, affecting both language and personified acts. Language shapes the speaker's interpretations, performance and experiences. Applying it thoughtlessly can lead to repression, prejudice and aggression. Language is the instrument through which images and implications are created and negotiated – a fundamental method through which ideologies are transferred (Hawkins & Norton, 2009). Understanding this approach can progress a hegemonic position in the (re)production of standards in Italian-language classrooms. Examining pedagogic methods that present the dominant discourses in the textbooks and curricula can help learners acknowledge the heterosexual models those discourses perpetuate and interpret as normal (Coda, 2018).

The practice of power continually generates knowledge, and knowledge likewise stimulates the effects of power (Foucault, 1980). Consequently, power is involved in the fabrication of knowledge, and knowledge in that of authority. Italian instructors must be conscious of Foucault's notions of discourse and power and how they generate certainties relative to issues such as identity. In language pedagogy, power, knowledge and discourse distinguish identities that support the norm and remove others, such as LGBTQIA+ identities (Coda, 2018). Configurations of knowledge as 'fact' can have significant repercussions in comprehending how particular identities are advantaged and become the standard over others. In Italian-language pedagogy, then, instructors' critical self-reflection is essential because it offers a view of the correlation between the individual and the social realm that emphasises both limitations and opportunities for social transformation (Hawkins & Norton, 2009).

Discussion

Considerations for the Italian-Language Classroom

Queer analysis questions all identities and performances. It is advocated to assess influential dialogues regarding sexual and gender identities as regular or real (Coda, 2018). In pedagogy, prevalent heteronormativity dictates what is 'natural' gender and sexuality. Those who are unaligned with the accepted roles are subject to control over their performances (Pascoe, 2007). Pedagogies of inclusion only generate exclusion; thus, who is included must be examined. That is, who and what is depicted in relation to race, gender and class must be contemplated by presenting authentic images of queer identities in both the Italian and learners' culture. Because language is embedded with historical and cultural meanings, it affords problematising dominant discourses that exclude

marginalised identities. Italian pedagogy can offer ways to question dominant assumptions and foster more equitable language-classroom spaces by disavowing standard proficiency-oriented practice and instead incorporating elements of queer theory and pedagogy (Atkinson & DePalma, 2008). This ideology can then invoke critical thinking around the practices that normalise heterosexuality in pedagogy and silence LGBTQIA+ identities in classrooms (Coda, 2018).

Italian-language learning encompasses grappling with myriad meanings and making one's way without traditional anchoring points. It requires a heightened awareness of the centrality of language, the cultural specificity of knowledge and the ways in which language and knowledge are infused with relations of power (Nelson, 2009). Instructors must reflect on how classroom practices may reify norms within both Italy's and the learners' cultures. Students are not homogenous. They possess multiple identities regulated and (re)produced through discourses. Instructors must constantly reflect how they can open a space for all identities and forms of knowledge.

Norms produce knowledge about identities. By encouraging students to critically reflect on those norms, instructors can consider the ways in which cultural norms vary. Exploration of other ways of thinking and being in the world can foster democracy and social justice (Coda, 2018). Although proficiency is a relevant aspect of Italian pedagogy, the influence and importance of a critical, queer pedagogy must not be overlooked (Formato, 2018).

There are tangible concerns for LGBTQIA+ learners. For instance, permitting heteronormative (i.e. homophobic) beliefs to go uncontested also permits detrimental and unsafe behaviours (Paiz, 2019). Italian-language instructors have not sufficiently addressed the queering of their practice or created spaces where all identities are problematised relative to dominant social discourses.

Classrooms need a queer-knowledgeable pedagogy, primarily one in which all identities are patrolled by hegemonic social discourses through a variety of resources, such as language. Critical consciousness of the necessity to stress all identities, not just LGBTQIA+ identities, is essential for both language learning and teaching (Nelson, 2006). The result of a queer-pedagogical tactic would lead learners to address their own sexual identities, communicate with LGBTQIA+ persons in empathetic and relevant ways and deconstruct LGBTQIA+ identities in their everyday lives and in the mainstream media of Italian culture. This is significant because there is much at stake in heteronormative Italian learning spaces – even ones that are inadvertently so.

The sanitised, homophobic and neutral world continues to be perpetuated. Learners must be prepared to participate in LGBTQIA+ matters, content and discussions in Italian-language classrooms as a part of lived practices. This perspective reflects reality, rather than the hegemonic discourse. Reluctance to construct a secure space for these conversations can have detrimental outcomes, such as continuously regarding LGBTQIA+ identities as forbidden or 'other'.

Moore (2016) underscored the perils of not critically reflecting on practice in a manner that recognises the differed environment of the classroom for LGBTQIA+ people. He detailed a queer-investigation methodology that allows instructors to be more cognisant of social questions, such as those about weekend plans or out-of-class events, which may generate pressures for LGBTQ+ language learners. Learners must decide how to reply – honestly or guarding their sexual identities. They sometimes disguise their sexual identity in classes, fearing retribution, reprisals, and exclusion. This obligates Italian instructors to reflect on how to introduce and integrate LGBTQIA+ material into queered language classes (Piaz, 2019).

Conversations on queer identity can produce components of thematic-based programs permitting the integration of other prejudiced topics, such as homophobia. However, this does not benefit queer identity. Matters of sexual characteristics should not be addressed in isolation, positioning unwarranted emphasis on them. Instead, acknowledgment of sexual identities must be presented as part of a broader exercise of justice and anti-discrimination throughout the curricula and as part of a far-reaching critical pedagogic scheme. This has consequences for foreign-language instruction, which emphasises views and belief patterns of other cultures instead of the local culture (De Vincenti et al., 2007).

Preventing such conversations propagates the taboo and does not acknowledge abstract changes that may be happening in Italian language and culture. Supporting these conversations affords learners the chance to articulate genuine ideas and become autonomous speakers of Italian. A linguistic pedagogical discourse must be encouraged – one that questions normative positions penetrating the composition of Italian language and culture, performed and strengthened daily through images and societal norms. If identities are assumed to be discursively produced, and if Italian plays an important role in articulating identities, then tactics that permit discovery within the limitations of cultural linguistic constructions must be developed and discussed in the classroom, as opposed to pretending they do not exist (De Vincenti et al., 2007).

Such discovery, including questions about sexual identities, starts in the beginner stages of language acquisition. Conversations focusing on ideas such as family and relationships can create profound discussion about sexual identities and can be investigated within fundamental Italian-language exercises. In beginner classes this theoretical dialogue may take place in English. The approach implemented may depend on the instructor's personal inclination; however, the use of a common language (English, in the North American context) should not be rejected if it supports the learners' acquisition and understanding of the language and cultural context (De Vincenti et al., 2007).

Classroom Materials and Applications

Materials have been created to sidestep issues that establish queer voices in Italian teaching spaces, such as family and dating. Evasion may seem to be a simple, impartial approach that many Italian instructors and textbook publishers practise. Nevertheless, evading topics is symptomatic of an ideological position that, in this case, is heteronormative by preserving a monosexual worldview (Liddicoat, 2009) in the Italian and predominant North American cultures. Indeed, male and female roles need be discussed to learn about culture, but there is also a queer Italian culture. Otherwise, queer learners may believe they are acquiring a language from places where they and related ideas are not welcome. Therein lies a hidden curriculum of conformity in Italian classes (Formato, 2018, 2020a). Learners who do not match the textbook-displayed identity choices may face problems in their efforts to acquire the language or become effective Italian-language speakers. Further, sexual and gender identities presented as legitimate or respected in the target context may brand learners who identify alternatively as illegitimate users of the foreign language (Paiz, 2019).

Queering Italian-language pedagogic resources requires approaches that are vulnerable to the demands and linguistic abilities of the Italian-language learners. For instance, lower-level learners may increase proficiency by utilising authentic materials scaffolded by the instructor through in-class activities. Scaffolding includes cautious modifications of materials, making them more linguistically suitable, allowing more critical thinking and displaying more diverse relationships and situations. This opposes the heteronormative, textbook-provided and sanitised examples of traditional relations.

Moreover, the instructor must push more in-class dialogue to spotlight queer identities and manifestations, promoting diversity (Merse, 2015).

Class materials also must be queered, and Italian-language instructors must be adequately trained to carry out this crucial effort with little encouragement from supervisors. Such alterations may seem unnecessary because they are not mainstream or trivial because well-educated and well-trained language instructors should not require assistance. However, they are crucial because commercially offered materials often serve as an influential scaffold for beginning-Italian instructors (Grossman & Thompson, 2008) and may falsely legitimise material examples as inflexible. Furthermore, time constraints commonly restrict where and how instructors move away from the delegated text.

Textbooks

Textbooks favour heteronormative discourses in Italian-language teaching spaces (Paiz, 2015). Conventional curricular materials – mass produced by for-profit publishers – often reify discourses that determine the accessible range of identity alternatives for learners and suppress unconventional voices (Paiz, 2017). Italian-learning materials seldom mention queer voices, either in book characters or aspects of Italian culture and society. For example, exercises do not demonstrate relationships or issues that fall outside of a heteronormative perspective. Instead, examples that could lead to discussion and that acknowledge the existence of marginalised voices serve learners and afford them a just narrative.

Textbooks can be used to introduce queer cultural icons and important historic figures in Italian history. Many famous Italians are mentioned throughout standard language textbooks. Similarly, discussion of famous queer Italians – from the arts, such as Botticelli, Caravaggio, da Vinci, Michelangelo and Donatello; to film, such as Pasolini, Zeffirelli and Visconti; to fashion icons, such as Versace, Gabbana and Armani – could be created both in English and intermediate- and advanced-level Italian. If these famous figures are not positively presented and framed as contributing to Italian culture, then their absence from and disparity with mainstream Italian culture will further contribute to estranging queer culture.

Assignments

The Italian-language teaching space is a constructive area to discover sexual identities because language learning requires contributions in different assignments and communicative exercises, such as role playing. Learners are urged to envision themselves in various circumstances and roles. Thus, the exploration of identities is an essential, although not always explicitly recognised, part of the language space (De Vincenti et al., 2007). It is a potential but currently unutilised tool to discuss and understand queer culture and experiences in both the Italian and the learners' contexts. Role-playing exercises that focus on aspects of communicative competence to acquire Italian adopt neutral identities, thereby silencing queer voices and perpetuating harmful perceptions of queer people. This results in missed opportunities for communicative exercises that both facilitate language acquisition and open learning spaces to hear other marginalised perspectives.

Life-description assignments are powerful instruments for queering the Italian-language classroom. Learners can describe, legitimise and share their unique life experiences with the class, as opposed to leaving these experiences undiscussed and silenced, which continues the heteronormative power paradigms. Additionally, class exercises can provide more general cultural responses relating to both Italian and North American culture.

Italian-language instructors must discover ways to mix LGBTQIA+ matters into their courses, understanding that LGBTQIA+ content might coincide with prevailing curricula that emphasise themes such as cultural diversity, celebrities and workplace life (Merse, 2015). However, thematic units (health, family, greetings, sports, etc.) are more commonly presented in a narrow, heteronormative light that perpetuates outdated and destructive paradigms within the Italian-language classroom to learners' detriment.

Conclusion

Integrating queer pedagogy, and therefore queer theory, necessitates an interrogation of the knowledge that influences instructors' thinking and practice. Queer pedagogy is a chance to promote a group atmosphere for critical and self-reflective dialogue among instructors and learners within the context of Italian language and culture (Formato, 2018). Acknowledging the interrelation between the Italian language and its culture is vital. Because linguistic constructions build social experiences, the Italian language and those who teach it embody instruments to either support or question heteronormative sociocultural values.

Queering the Italian-language pedagogy can invoke learners' critical thinking around issues related to sexual identities. Supporting materials and a curriculum that enable linguistic and reflective discovery are needed (Formato, 2020b) to establish new methods in the classroom. Italian instructors should provide texts depicting nonheteronormative people having the same relationships, levels of enthusiasm regarding love and difficulties inherent in heterosexual relationships (De Vincenti et al., 2007). Although instructors are not always afforded the time to adapt all texts, awareness of these disparities is important in validating issues and acknowledging queer voices in the learners' culture and lives.

The reality of Italian culture is diverse. Representations of the Italian queer reality can be discussed in thematic units at different levels of linguistic proficiency or in English. These units explain the current situation in Italy, possibly sparking critical discussion in a comparison to the learner's culture. Discussion of inclusion in Italian textbooks may include LGBTQIA+ rights, history, recognition, family, identity expression, activist groups, public campaigns, living conditions and public opinion. In this way, queer pedagogy can offer language acquisition through a critical perspective, giving marginalised learners a voice.

Conflict of interests

The author declares that they have no conflict of interest.

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The need for integration of reading, critical thinking and academic reading skills: a quantitative analysis of Slovak undergraduates' reading performance

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Abstract:
Based on recent research (Alderson, 2005; Khalifa and Weir, 2009), this study focuses on three areas of reading comprehension necessary for a successful academic career: general L2 EFL reading skills, more specific academic reading skills and critical thinking and reading. The study presents an analysis of quantitative research conducted in 2020, based on a sample of Slovak undergraduate students reading an academic text in English as L2 in EFL CLIL-formatted classes in humanities.

The respondents' general reading skills were analysed in the context of their critical reading skills and academic preparedness. When tested for general reading skills, respondents were asked to identify implicit and explicit information and the gist of the text. Academic abilities were tested via the ability to identify the attributes of an academic text, such as the system of references, rational and logical language and cause-effect type of argumentation, which indicated the author and genre of the text. In order to evaluate participants' critical skills with a focus on the social aspects of the text, respondents were asked to identify the importance of the text for themselves and for their community and life. The participants' mean scores and differences in their performances on each task type were compared using descriptive statistics, and multiple analysis of variance. The results suggest that the general reading skills of university undergraduates in Slovakia are adequate, however, more difficulty was encountered with implicit, rather than explicit, tasks. Students also need to improve their critical reading skills and reading for academic purposes. The research outcomes highlight the need to hone the education of future linguists to the new needs of a more text-based society.

Key words: academic reading skills, critical thinking, motivation, reading comprehension, reading performance

Introduction

The nature of general reading, as well as academic reading, has significantly changed over the last decades (UNESCO, 2000, PISA, 2018). The development of the internet, globalisation and the recent pandemic have shifted many in-class text-based instructions and reading assignments to the online environment and also increased the amount of written instructions and texts. Readers, including university students, read more intensively, thus, it is necessary to adjust their reading skills to new circumstances. SWOT analysis is, therefore, essential in order to plan the extent, pace and procedure for necessary future adjustments. In this study, we focused on the analysis of the general reading skills of adult readers (first year university undergraduates) in the English language, their academic reading skills and their critical thinking skills, as well as the necessity to combine all of these in order to excel academically in the increasingly text-based, globalised and internalised world of academia.

1 The interrelation of reading, critical reading and academic reading skills: definitions and theoretical approaches

Reading is for many experts the most essential language skill required by L2 EFL students for academic achievement (Ostler, 1980; Robertson, 1983; McDonough & Shaw, 1993; Javorčíková & Kováč, 2017). Recent research into reading (O'Malley et al., 1985; Alderson, 2005; Khalifa and Weir, 2009) has moved away from the traditional behavioural "bottom-up" approach (understanding reading as a teacher-directed isolated skill, processed from the meaning of words and sentences to the overall meaning of the whole unit) towards a more holistic, cognitive approach (understanding reading as student-centred and learner-driven process where the learner constructs the meaning or meanings via "top-down" methods back to sentence and word-level), especially when reading extensively. The cognitive approach views reading as a hierarchical complex of skills, sub-skills and strategies. This hierarchy of skills was divided by Khalifa and Weir (2009) into cognitive (involving mental manipulation or transformation of materials or tasks, intended to enhance comprehension, acquisition and retention) (O'Malley & Chamot, 1990), and metacognitive (focused on global meaning and using higher level or processing, such as summarising, previewing, predicting, skimming and search reading) strategies (Piršl, Popovska & Stojković, 2017). Carrell (1989) recognizes a similar taxonomy of strategies. However, he divides them into local (text-oriented strategies concerned with syntax, lexicon, etc.) and global (focused on "text at large"—the gist of the text, its organization, etc.). The original cognitive and metacognitive strategies were further amended by the phenomenon of so-called "social mediation"; i.e. social or affective strategies, which employ interaction with other people or ideational control over tasks (O'Malley et al., 1985; Khalifa and Weir, 2009)

According to recent research (Cameron 2001; Grabe & Stoller 2011; Lojová & Straková 2012; Šipošová 2017), the cognitive approach to reading, and especially to academic reading and reading at professional level, shifts towards a psychological understanding of reading as a broader set of processes that go far beyond the mere recognition of words and utterances, and even beyond understanding relationships in sentences and larger units, such as text and context. A cognitive-psychological model of reading recognizes reading as a complex of hierarchical and multilayered and multicomponent, dynamically changing set of psychological processes (Zápotočná, 2001, p. 1). Modern definitions of advanced reading also take into consideration:

a) Integration of previous linguistic knowledge, skills and experience. These are of key importance, especially in EFL reading, when readers often use skills acquired in their mother tongue (Straková & Cimermanová 2005, p. 21). Alderson calls the point where reading skills from the mother tongue are translated into reading skills in the foreign language a "language threshold" (Alderson, 2005).

b) Focus on the personality of the reader. Oxford (1990) and Veverková (2020), for example, analyse meta-cognitive (reader-related) reading strategies.

c) Focus on social and critical aspects of reading: Alderson (2005) states that reading also implies understanding the broad meaning of the text, the direct and indirect intentions of the writer, the identification of the assumed writer, and also complementation of the significance of the text for an individual and his or her community. Scholes (1991) and Gavora (2012) also point out the complex social nature of reading and its immediate connection to the life of the reader. Successful readers do not only read, they also integrate reading contents into their actions and thoughts. In this respect, academic reading in the broad sense of the term integrates the methods of social mediation and borrows strategies from critical reading.

Critical thinking is reasonable and reflective thinking focused on deciding what to believe or do (Ennis, 2001, p. 1). Paul (2006) holds that "…critical thinking is the art about thinking in an intellectually disciplined manner. [Critical thinkers *and readers*, note: the authors] analyse thinking, they assess thinking, and they improve thinking, and these skills are based on understanding eight elements of thoughts: purpose, key questions, information, concepts and assumptions, implications and consequence, point of view, interpretation and conclusion (Paul & Elder, 1996). In order to achieve the aforementioned elements of thoughts, specific critical reading skills generally utilise the ability to employ reason, read actively, ask questions before, during and after reading, integrate information and previously acquired knowledge, seek a broader picture of presented information, and generally employ a broad complex of skills, including observation, analysis, interpretation, reflection, evaluation, inference, explanation, problem solving, and decision making (Lipman, 1988; Skills you need, 2020).

On the other hand, academic skills represent a collection of study habits, learning strategies, and time management tools that help students learn and absorb school lessons (Upson, 2021). They are of key importance in five core subjects (language or languages studies, including reading and writing; mathematics; science; history; and technological literacy), giving students the tools they need to assimilate the key lessons of each discipline (Upson, 2021). Ostler (1980), Roberts (1983) and McDonough & Shaw (1993) assume that among these, academic *reading* skills are dominant; they translate into all the other core skills. According to many scholars, inspired by Robinson (1948), academic reading skills include: a) surveying (anticipation of the contents based on the heading, sub-heading, afterword, etc.) and the constant asking of questions, creating paragraph headings; b) reading and writing down notes; c) recalling contents and d) reviewing and creating the mental picture of the whole. Recent research by MacLachlan and Reid (1994, pp. 3-4) further expanded Robinson's processes involved in reading and suggests four types of "interpretive framing", essential in order to understand reading contents in academic reading:

1. Extratextual framing—using information outside the text, readers' background knowledge and experience, to understand texts.
2. Intratextual framing—making use of cues from the text, such as headings and sub-headings and referential words such as "this" and "that" to understand texts.
3. Intertextual framing—making connections with other texts readers are reading to help to understand the current text.
4. Circumtextual framing—using information from the cover of the book, title, abstract, references, etc. to understand the text.

For adult users reading for academic purposes is therefore a synthetic skill; it uses and combines many of the aforementioned techniques, strategies and sub-skills of general and academic, as well as critical, reading; especially in CLIL-formatted classes, such as university courses on literature, cultural studies and certain aspects of linguistics classes (Höhn, 2020). Moreover, in L2 EFL classes, reading not only integrates processes of critical thinking; general reading becomes critical reading, a new reading style or, a new "lifestyle" (Cottrell 2005, p. 77; Paul, 2006; Kolečáni-Lenčová, 2020). Fig. 1 shows the interconnection of general reading, academic reading and critical reading sub-skills:
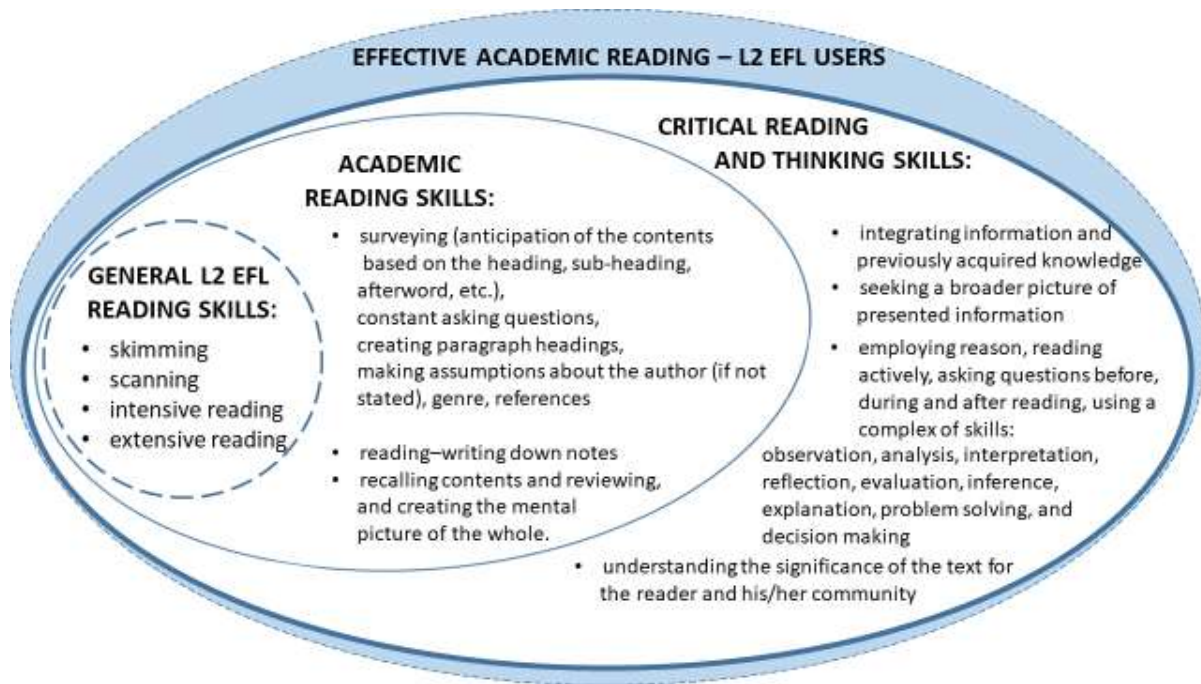
Fig. 1: Integration of general reading, academic reading and critical reading sub-skills for reading in English in CLIL-formatted classes (author: J. Javorčíková)

Conclusively, reading at university level for L2 EFL students is an integrated hierarchical skill with a complex taxonomy of sub-skills, borrowing from academic reading and critical reading and thinking. New ways with text also bring new challenges to advanced EFL learners. In order to excel in their university studies and in an increasingly internationalized learning environment, students are expected to master not only reading in a foreign language (including understanding text and context and its social aspects) but also gain to a good command of academic reading skills (including identification of basic attributes of academic texts, their language and form or argumentation) and critical reading skills (identification of the context, including understanding a broader meaning of the text for the reader and his or her community).

2 Statement of the problem

Despite reading comprehension at advanced level being a well-elaborated topic internationally, little similar research has been conducted nationally on the complex reading skills of L2 EFL adult language users, even though it is essential to identify the level of reading comprehension in the very early phase of undergraduate studies in order to detect reading problems that could hinder individuals from succeeding academically. This research constitutes an attempt to explore the way L2 undergraduate students understand three different aspects of an unknown English academic (expository argumentative) text: general L2 reading, academic reading and critical/social reading. To this end, the following research questions will be investigated in this study:

1. Is there any significant difference among undergraduate students reading for explicit and implicit information?
2. Do undergraduate students possess adequate academic reading skills?
3. Can undergraduate students read and understand social aspects of the text (its relevance for their present and future life and career, for their community)?

3   Sample unit description, research tools and instrumentation
3.1 Sample unit description

The holistic approach to effective reading served as a starting point for a quantitative study, conducted in September 2020.[1] In order to identify their strengths and weaknesses in reading and critical thinking, reading tests were administered to 179 1st-year full-time undergraduates studying English teaching and translation studies at Matej Bel University, Slovakia.[2] After stratified random sampling, securing a representative sample of 1st year students, the sample unit was created of 100 valid tests (50 teaching programme and 50 translation studies students). In terms of their declared English level, obtained during the final high school exam (Maturita, equivalent to A-levels), 72 respondents achieved the optimal CEFR B2 level, however, other levels were also recorded in the sample (B1—14 respondents, C1—13 respondents and Maturity exam in Spanish language—1 respondent). The average time of studying English was 11.81 years. 99 respondents were Slovak, one student was bilingual (Slovak and Italian).

3.2 Research tools, methodology and procedure

In order to test reading competence, a series of reading skills, critical thinking and academic skills were tested via an extract from a quasi-academic B2-level English text entitled *Children, teenagers, and e-books: young people and the new technology.*[3] The text was analogous to standardized Maturita texts for reading comprehension; it contained 509 words, 5 paragraphs, 33 lines, 25 statements and 1 interrogative. Participants took the test in one session.

Reading comprehension was tested by way of 15 questions:

- 9 questions focused on the identification of general reading skills (Q1, 2, 3, 6— identification of explicitly mentioned information, Q4, 7, 8, 10—implicit answers and Q5— identification of the main idea). These questions were followed by four multiple choice statements (a score of 1 was given for each correct response and 0 for each incorrect response). The mean scores, and differences in participants' performances on each task type were compared using descriptive statistics, and multiple analysis of variance. The results suggest that general reading skills of university undergraduates in Slovakia are adequate, however, more difficulty was encountered with implicit, rather than explicit, tasks.

- 6 questions were academic reading skills (Q12, 13, 14) and critical thinking identifiers (Q9, 11, 15). As critical reading often does not invite a single answer, these questions were followed by four multiple choice statements (a score of 1 was given for each correct response and 0 for each incorrect response) but participants could also provide their own answers and commentary in the space provided. The mean scores, and differences in participants' performances on each task type were compared, however, attention was also paid to individual answers, including the incorrect ones.

The length of the text and the test format was selected as a representative of the types of texts students most often read in their undergraduate studies, such as seminar reading

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1 Pilot-tests were conducted at the Department of English and American Studies, Matej Bel University, in December 2019; 20 respondents.

2 66 Slovak respondents were discarded (on the basis of incomplete information, respondents with reading or uncorrected optical disabilities, etc.). Respondents who were familiar with the topic beyond general awareness were not included in the sample unit. 20 international respondents were also discarded; a comparative analysis will be a subject to a study published in 2021.

3 The text was published in a coursebook *English File, Upper-intermediate* (Oxenden, Latham-Koenig and Seligson 2001; CEFR B2 level); however, the researchers adapted minor details for research purposes.

logs, assignment criteria, secondary sources, etc.).[4] The central topic of the text (reading and book-purchasing habits of four different age groups and their preferred print or electronic media) was selected on the assumption that the topic might be familiar to students of humanities (future teachers and translators/interpreters). On the other hand, none of the respondents were experts on the topic, therefore no-one was at an advantage with respect to the other respondents.

4 Research results

Table 1 shows the research results of the whole sample (100 respondents).

Tab. 1: Total results: whole sample

Mean	N	Std. Deviation	Std. Error of Mean	Minimum	Maximum	Median
11.87	100	1.426	0.143	8	14	12.00

Source: authors

Regarding the first part of the research, the mean score for the whole sample was 11.87 points, (median=12; SD = 1.426); variance 0.05. The minimum score was 8 (53.33%), the maximum was 14 points (93.33%). The results were not normally distributed. Figure 2 shows the histogram of total sample results.
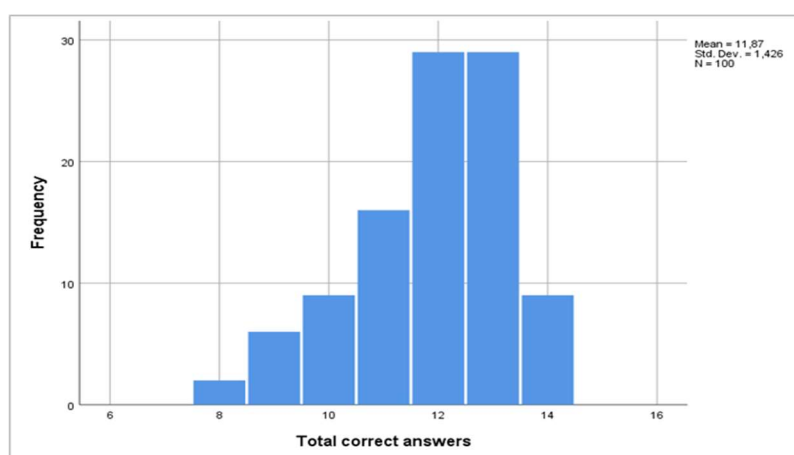

Fig. 2: Total correct answers: whole sample (based on the Kolmogorov-Smirnovov and Shapiro-Wilkov tests of normality, the results are not normally distributed).

3.1 General reading skills: explicit, implicit information and reading for gist

General reading skills (reading for implicit, explicit information and reading for gist) were tested by way of 9 comprehension questions and multiple choice answers. The performance of the subjects was scored; a score of 1 was given for each correct response and 0 for each incorrect response. The respondents' mean scores, and differences in their performances on each task type were compared using descriptive statistics, and multiple analysis of variance. In order to measure respondents' general reading comprehension, four questions were related to the identification of explicit information (Q4, 7, 8 and 10),

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[4] The authors decided against utilising authentic texts as academic terminology classifies the text as C1, which is required at the Master's level of the respondents' studies.

another four to identification of implicit information (Q1, 2, 3 and 6) and finally, one to understanding the main idea of the text (Q5). Table 2 shows total L2 reading skills results.

Reading skills and sub-skills	Descriptors	Correct answers (%)
Identification of explicit information	Q 4: How many children own a smartphone acc. to the survey?	97
	Q 7: Why do teenagers not consider e-books to be social media?	94
	Q 8: Parents prefer...	90
	Q 10: According to the text, how many books are bought spontaneously?	97
Identification of implicit information	Q 1: According to the text, how many young people prefer printed books to e-books?	80
	Q 2: Teenagers nowadays most often read...	85
	Q 3: For whom is the visual and tactile attractiveness of books most important?	91
	Q 6: According to the text, which group of readers is the least interested in e-books?	50
Understanding the main idea of the text	Q 5: Who benefits from this type of research and why?	88

Tab. 2: Total research results: L2 reading skills: explicit, implicit information and reading for gist

Table 2 shows that respondents scored very high in identification of explicit information (Q4, 7, 8 and 10) as the mean score for this skill was 94.5%. The mean score for identification of implicit information (Q1, 2, 3 and 6) was lower—76.5%. Interestingly, 50 % of respondents provided incorrect answers to Q6, despite there being enough textual signals to identify the explicitly stated information, incorrectly assuming the elderly and very little children would be the generation avoiding e-literature (line 21). The difference between implicit and explicit questions is illustrated in Fig. 3.
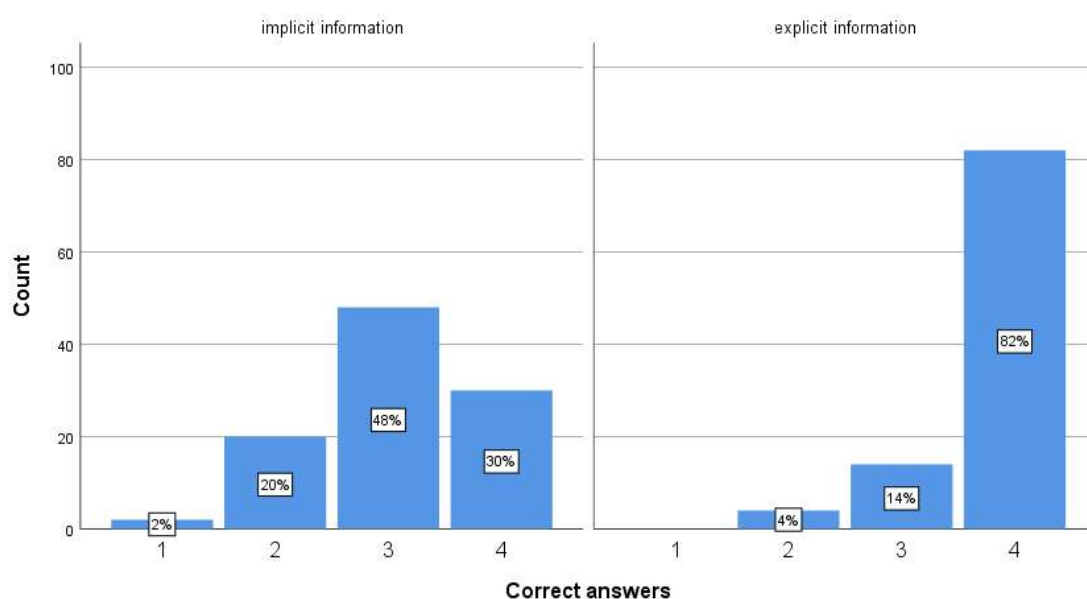

Fig. 3: Correct answers: implicit and explicit questions

The bar chart (Fig. 3) shows that in terms of implicit questions, correct answers in 98% spanned from 2 to 4 correct answers, with the most numerous group consisting of students who did not respond correctly only to one question and gained three points. Unlike implicit questions, explicit ones were easily answered by 82%, with minimal representation of students who gained zero or only one correct answer.

		N	Mean	Std. Deviation	Std. Error Mean
IM a EX	Implicit questions	100	3,06	,763	,076
	Explicit questions	100	3,78	,504	,050

Table 3: Explicit and implicit information: group statistics

The research results were analysed for normality using the Kolmogorov-Smirnov test; without normal division. According to the Student's t-test, there is a significant difference in the results of these two groups of issues (identification of explicit and implicit information) at a significance level of 1%. Due to abnormal distribution, we verified the t-test using the Mann-Whitney test, which also confirmed significant differences in both issues at significance level 1%. Slovak undergraduates thus find reading for implicit information more difficult than reading for explicit information. As many as eighty-eight percent were able to grasp the main idea of the text; the overall mean score in general reading tasks, including reading for gist, reading for explicit and implicit information, was 86.33%, which exceeds the student retention number in this course (81.56%).

3.2 Academic reading skills and critical thinking skills
Apart from general reading skills, six questions were administered to test undergraduates' academic reading skills combined with their critical thinking. These questions included identification of the organization of the text (Q9—identification of the number of sources quoted in the text) and making assumptions about the author and text genre (Q11, 15). Two questions (Q12, 14) were aimed at undergraduates' social strategies (social mediation) as defined by O'Malley (1985) and Alderson (2005)—identification of the importance of the text for students' life and future career (Q14) and understanding the importance of the text (Q12), as well as understanding the general importance of the topic in today's world (Q13). In testing undergraduates' academic reading skills and critical thinking, a slightly different approach was selected; apart from providing multiple choice pre-selected options, students were encouraged to add their own comments, select more options or withdraw from these, if they felt the answers provided did not interpret the text accurately. Only one student indicated more than one option (however, being an international student, he was not included in this study) and no Slovak student included in this study commented on the answers provided or produced his or her own answer. That could indicate the respondents were intimidated by the test; they did not dare to question the options even though they were encouraged to.

3.2.1 Total results: academic reading and critical thinking (organization and assumptions about the text)
The reading of academic texts involves various skills, employing four types of framing (intertextual, extratextual, intratextual and circumtextual; MacLachlan & Reid, 1994, pp. 3-4), which are defined in the theoretical part of this study. Following MacLachlan and

Reid, we selected three questions, integrating various aspects of academic skills: identification of the genre of the text (based on multiple textual signs, such as academic language, etc.), author (who was not stated, so the readers were to make assumptions about his or her authority in the field, etc.) and type and number of sources referred to in the text, in order to gauge the reliability and relevance of the text. In these questions, the testing procedure was slightly different from the testing of general reading skills; the respondents were instructed to choose one of the options or provide their own answers. Table 4 displays research results in respondents' academic and critical reading skills.

Academic and critical reading skills	Descriptors	Correct answers (%)
Organization of the text	Q 9: How many sources were quoted in the text?	75
Organization of the text	Q 11: The author of the text is...	73
Organization of the text	Q 15: The genre of the text is...	83

Tab. 4: Respondents' academic and critical reading skills

Table 4 shows group results of the sample unit. In Q9, only 75% of respondents were able to identify the correct number of sources (two) based on in-text references and discursive markers. While the text did not feature a bibliography, there were six references in the text, referring to the number of sources quoted (*the first survey, a second online survey, 66% of young adults in the survey said that*…, *the research showed that…, surveys like these* and summatively in line 33: *…the two surveys…*). In spite of this, 25% of the respondents were not able to identify the correct number of sources the author was referring to. Possible reasons for this relatively high number of incorrect answers might be low academic preparedness of graduates (lack of familiarity with the term "survey" and inability to decode linking words *the first, second, both* and plural *surveys*). The reasons may also lie in their low academic reading skills; alternatively also in their low ability to identify indirectly mentioned information.

Q11 (potential author) and Q15 (potential genre) focussed on the respondents' ability to make assumptions about the text, its genre and author, even though these are not explicitly stated in the text.[5] The genre of the text (Q15) was extensively indicated by its neutral style, academic vocabulary, causative argumentation, terminology and many other phenomena (Mistrík, 1997). The potential author was also indicated by the aforementioned references to the genre of the text which categorized him or her as a scholar or a researcher in the respective field.

All the respondents had already passed the Maturita exam and had taken the course Introduction to Linguistics so they were acquainted with basic styles (expository, descriptive, persuasive, argumentative and narrative), as well as with the attributes of an academic text. Also, being in the 1st year of their studies, they had taken 6-10 academic subjects in English in which they were periodically exposed to academic texts and discourse for a minimum of 3 months. Thus, they were expected to be able to identify basic academic text attributes, such as academic vocabulary, precise facts and figures, the referencing system, complex grammar structures, passive structures and caution-tentative language (Mistrík, 1997; Gura, 2005) and, consequently, the assumed author.

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5 The researchers were aware of the fact that academic texts state the author and references, however, we were interested in participants' ability to detect the missing parts of the academic text, based on their awareness of basic expository argumentative texts.

While the 83% correct answers in Q15 can be considered high, it is interesting to examine the answers of the 17% of undergraduates who failed to identify the correct genre. Specifically, 5% of respondents considered the text to be an extract from an economic report, 10% of respondents identified it as an extract from a popular informative article and 2% of respondents considered it to be an extract from an essay. With regards to the fact the genre of the text was indirectly indicated in line 3 (…*market* research *is carried out in this age group on regular basis…*) and the fact that students had followed a course focussing on various genres and styles, we find it perplexing that 10% of the students judged the text to be an extract from a popular informative article and 2% students deemed it to be an essay. The 5% of respondents who identified the text as an extract from an economic report were technically right; however, they overlooked the title and subtitle; which are not typical for economic reports.

The respondents were even less successful with the identification of the assumed author of the text in Q11 (73% correct answers). In response to the assumed author, 20% of respondents chose the distractor C (the author of the text is *a researcher in* adolescent *literacy*) in spite of the fact that the entire text analysed reading and shopping habits of as many as three groups of readers, not just one: children, teenagers, and also of their parents). Respondents were also reminded of the multiple research focus of the author by the title *Children, teenagers and e-books.* Also, the text did not relate to literacy in general but to reading habits and preference of e-literature to traditional printed sources by three groups of readers. Six percent of respondents selected distractor A (*an educator*) in spite of the fact that the article did not refer to any specific subject or teaching process and the reader was several times reminded of the connection of the topic with book markets (line 22—*young adult market*; line 33—*latest trends in the market*; line 34—*In the case of the children's and young adult market, the two surveys have shown that printed books …against e-books*). One respondent selected the distractor B (*An owner of a digital device store*). Technically, the research could have been conducted for the professional bookselling marketing, but even in that case, the study would have been developed by a researcher, not the owner of a store; thus, the answer was incorrect.

3.2.2 Reading and social mediation: the significance of the text

Except for the academic attributes of the text, the set of three questions (Q12, 13 and 14) was designed in order to focus on the broader and social aspect of reading, i.e. understanding the significance of the text for the reader and his or her community. Especially in literature classes and cultural studies classes, students should develop awareness of social mediation, i.e. social aspects of reading (as suggested by O'Malley, 1985 and Alderson, 2005) and continue in improving their skills in this area as successful reading and academic reading in many aspects overlaps with critical reading skills and relates to the students' personal and professional life. Table 5 shows respondents' critical reading skills in the context of social mediation.

The researchers first analysed the respondents' ability to identify the significance of the text based on intratextual information. Q12 was a synthetic type of question. Respondents were to critically evaluate the importance of the text, based on intratextual information, for themselves and their community. Then, they were to evaluate the significance of the topic in general. Furthermore, students were informed that they can add their commentary to the pre-selected options, select more options or withdraw from these, if they felt the options do not reflect the true value of the text.

Academic/critical reading skills	Descriptors	Correct answers (%)
Understanding the importance of the text for the reader's community	Q 12: This text is important because…	12
Understanding the general importance of the topic	Q 13: This topic is generally important nowadays.	100
Understanding the importance of the text for the life of the reader	Q 14: I consider this text relevant for my life and career.	72

Tab. 5: Respondents' critical reading skills and social mediation

Quite surprisingly, only one student indicated more than one option (however, being an international student, he was not included in this study) and no Slovak student commented on the answers provided. This could indicate that the respondents were intimidated by the authority of the test; they did not dare to question the options even though they were encouraged to do so. Table 6 shows the research results related to the importance of the text for the reader and his/her community:

Descriptor: This text is important because it shows that…	Respondents (%)
A—Some reading habits and shopping habits at book markets undergo changes (correct)	12
B—It criticises the lack of critical thinking of young people	1
C—It shows the most recent statistics	78
D—It explains why traditional printed books are not popular any more	9
E—Other	0

Tab. 6: Q12: Group results: the importance of the text for the reader and his/her community

More specifically, in Q12, only 12% of respondents identified the correct option. One student chose option B (the text criticizes the lack of critical thinking of young people), an answer most probably accepted as "general truth" regardless of the text in debate. The distractor D was also obviously incorrect; the text stated traditional books are more popular on the children's and young adult market (the information was mentioned directly in lines 33-34: *In the case of the children's and young adult market, the two surveys have shown that printed books are still more popular than e-books.*). In this question, 9% respondents, by selecting the distractor D, un-critically anticipated the higher popularity of e-sources regardless of the information provided by the text. Thus a cumulative sum of 10% of students displayed a serious lack of critical thinking; they provided answers they felt are somehow generally "true" and did not check their view with the text.

What we find of key importance in this research is the fact that in Q12, as many as 78% of respondents chose the distractor C (the text shows the most recent statistics). The distractor C was technically correct, however, these students overlooked the fact that the

extract they were reading did not provide a single date for the statistical surveys discussed. The respondents assumed the reliably-looking statistics mentioned in it were up-to-date and did not try to find and check the sources. We find this an alarming fact—readers were overwhelmed by seemingly exact numbers (despite the fact that they were not accompanied by authors and dates of research, and neither did the text state its author or bibliography, features that part and parcel of all professional academic texts). Furthermore, no student added a commentary or withdrew from the options. This proves that the respondents overestimated the authority of the test—they did not consider the idea that the options provided might be incomplete or inaccurate in relation to the text and the questions.

In order to analyse the social strategies and undergraduates' critical thinking, we were also interested in whether they found the selected topic important in general (Q13) and specifically for themselves and their future careers. Therefore, a specific article discussing recent trends in book reading and the rise of e-literature for various age-levels was selected as a research tool. The researchers assumed that future teachers and translators would be interested in this topic, as their future occupation will involve reading, teaching, translating and dealing with books, either printed or e-literature, thus, in Q14, we took answers A and B (A—*I consider this text relevant and important for my future career and life* and B—*I consider this text quite relevant…*) to be correct. Interestingly, for this question, 21% of respondents considered this text relevant and important for their life and future career (22%) or quite relevant and important (51%), however, 25% did not consider the text directly or indirectly related to their future profession and 3% found the topic irrelevant. These research results also show a discrepancy between Q14 and Q13, focused on the identification of the overall importance of the topic in the contemporary setting. In Q13, again, we deemed answers A and B to be correct (A—*the topic is very important* and B—*the topic is quite important*, whereas answers C—*the topic is not very important* and D—*the topic is completely unimportant* as incorrect). In Q13, as many as 98% of respondents considered the topic very important and 2% quite important; both answers were classified as "correct" by the researchers. Thus, total of 100% of respondents considered the topic of e-literature generally important, however, 28% failed to extend this importance from the general sphere to their personal and professional life and well-being.

4 Discussion

As we explained in the theoretical part of this study, successful reading at university level in EFL employs academic reading and critical reading skills. These skills require not only the ability to read and comprehend the text but also to go beyond and above the text: the ability to gather (deduce, anticipate, decode) a great deal of information and meta-information about the text and its discourse, identification of assumed author or authors (if not stated) and his or her more or less direct intentions (e.g. to inform, persuade, compare, synthetize). Furthermore, successful academic readers need to master the identification of the genre (if not clearly stated), the number, quality and relevance of references and the numeric data and statistics presented. In questions related to critical thinking, readers were not only to read but also to combine various skills and pieces of information: linguistic (foreign language), general knowledge, their own experience with e-literature and previous knowledge, and many others. Obviously, correct answers to many questions were based on good general reading skills in the L2, but also they required critical reading and thinking and academic reading skills.

The research results showed that:

1) The whole sample unit mean was 11.87 points (SD = 1.426); variance 0.05. Minimum number of points achieved was 8 (53.33%), maximum was 14 points (93.33%).
2) Among Slovak undergraduates, there is a significant difference in identification of explicit and implicit information at the significance level of 1%.
3) 94.5% of Slovak undergraduates can identify explicit information, 76.5% implicit information and 88% the main idea of the text.
4) 25% of Slovak undergraduates could not identify the number of sources based on in-text references. 27% could not make correct assumptions about the author and 17% could not identify the genre of the academic text.
5) While 100% considered the topic of e-literature relevant nowadays, 28% could not see the relevance of reading habits of various age groups of readers, including teenagers and young adults for their future careers as teachers and interpreters/translators. Alarmingly, 78% failed to find the weak spot (the missing dates of statistics) and thus could not read the text critically.

No similar research has been conducted nationally, however, the research outcomes presented in this study correspond with PISA 2018 which proved that in reading, Slovak 15-year old students scored below the OECD average (gaining 458 points; OECD, 2021) and below several culturally and educationally similar countries (Poland—512, the Czech Republic—485, Hungary—476, Ukraine—466; OECD, 2021).

Our research results also correspond with the 2019 national Maturita state examinations (in the following year the Covid-19 crisis affected the testing procedure). In the 2019 Maturita state examination, the overall reading comprehension of the B1 sample unit was 50.52% and B2 reading comprehension was 62.7% (which is substantially lower than our total results, 75.9%), however, Maturita examination results included all high school in Slovakia, including technical schools where the final scoring is usually lower.

However, the research results obtained are identical to the 2019 Maturita in specific sub-skills: in selective reading (true-false tasks, corresponding to the use of both local and global strategies, defined in subchapter 1), total reading results were identical to our total research findings—75.9%. However, just like in our research results, in the Maturita 2019 students seriously underachieved in global strategies (completing the missing sentence in the text according to the context and general meaning)—reaching only 54.4% (Krajňáková, Ficek, Kostolanská et al, 2021). In terms of the structure of tasks, the easiest tasks in Maturita 2019 included explicit answers and the main idea (matching of paragraphs and paragraph headings, 91.2% correct answers compared with our findings—94.5%). In implicit questions and gap-filling, based on the text read (employing thinking about the overall meaning of the text), only 42.7% correct answers were gathered (correlation with our research findings was not confirmed); however, even though undergraduates achieved 76.5% correct answers, they scored lower than in the search for a piece of explicit information.

Internationally, Alavi and Abdollahzadeh (2008) conducted a similar research of reading comprehension of argumentative narrative texts with a sample unit of 115 participants, proving that overall performance on the implicit argumentative texts is more difficult that the other text types and versions (2008, p. 118). Ozono (2002) also found that both of the examined groups gained higher degrees of comprehension in the explicit texts. Similar research has also been conducted at the University of Bedfordshire (Sheraz 2018). Sheraz (2018) summarizes many studies (Ballard, 1996; Ladd & Ruby, 1999)

pointing out the importance of the integration of critical reading into the established models or reading used in non-western countries.

The limitations of the presented research are twofold: first, there is no comparable national research done in Slovakia that would allow a comparative study. In 2010, Gavora and Matúšová conducted a similar research, however, they focused on global (i.e. critical) and local strategies in Slovak language only. Nevertheless, their research results correlate with our findings—Slovak undergraduates managed local strategies but underscored in global strategies (Gavora & Matúšová, 2010). The second limitation of the study lies in a relatively low number of comprehension questions which the researchers plan to extend in ongoing research, employing selected methods of the Watson-Glasner test of critical thinking. Also, the qualitative research will be complemented by qualitative monitored interviews with respondents, monitoring their individual perception of various reading tasks.

Nevertheless, the reading comprehension test used for this study proved to be a good quality tool as a placement test, identifying students' complex reading skills. Attention was paid not only to their EFL reading skills, but also to a broader ability to think about the text, context and its broader meaning. Underachieving students were identified and further personalised attention will be paid to them so that they can improve their reading and thinking performance in the L2 and academically excel.

Conclusion

The research described herein shows that, in order to become compatible with the international trends in university education in general and specifically in teaching EFL reading skills, tending towards a more critical reading (Sheraz, 2018, Hanesová, 2014), Slovak university education in the field of humanities needs a transformation of teaching methodology towards the cognitive model of reading, integrating aspects of critical and social reading (Kosturková, 2014). Thus, undergraduates displaying acceptable general reading skills but substandard critical skills need to learn to read more effectively and more critically—to be able not only to identify the explicitly mentioned data but also information that is implicit, and further—to make assumptions about the author, the genre of the text, its relevance (e.g. number and quality of referred sources) significance for themselves and their career and well-being as well as the life of their community. That requires an overall shift toward critical pedagogy, implemented into CLIL-formatted subjects. Specifically, Slovak undergraduates in their first year of studies need more guidance in the integration of their general reading skills, critical thinking and academic reading skills in a way that, except for the basic text parameters, will enable them to:

1) Understand the topic thoroughly, think about it in an objective and critical way (e.g. identify the author's intentions)
2) Identify the different arguments there are in relation to a particular issue (e.g. attitudes to the topic of e-books according to various age-levels)
3) Evaluate a point of view to determine how strong or valid it is
4) Recognise any weaknesses or negative points that there are in the evidence or argument (e.g. a missing date, reference, authority of the writer, etc.)
5) Notice what implications there might be behind a statement or argument (e.g. who benefits from the presented data)
6) Provide structured reasoning and support for an argument that might affect their reading performance (based on a Paulian critical framework; 2006, adopted by authors).

Numerous scholars (e.g. Sartori 1993, Zelenková & Hanesová, 2019, Židová, 2018; Štefániková 2019) agree that the adoption of the cognitive strategies mentioned in subchapter 1 may contribute to the reduction of so-called *cognitive incompetence* which refers to the insufficient ability of citizens to completely implement their own important decisions independently and thus, become more independent readers, learners and individuals.

Finally, the critical thinking framework, which is based on best theories and practices certified by the researchers and specialists in this field, is suitable for any discipline and teaching in the field of humanities (Rošteková, 2019). It remains crucial to all students studying in academic courses in English, and to university lecturers, as well. The critical framework, if applied properly, leads to discourse that prevents misunderstanding and leads to increased reading and thinking effectiveness as well as alleviating the tendency towards cognitive and digital incompetence. These skills are transferable to all areas of human life, and thus, may also reduce the inclination to believe in hoaxes, fake news or even adjust one's voting behaviour in a democratic, tolerant and objective way.

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Corpus-based analysis of semi-automatically extracted artificial intelligence-related terminology

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Abstract
Artificial Intelligence (AI), as a multidisciplinary field, combines computer science, robotics and cognitive science, with increasingly growing applications in many diverse areas, such as engineering, business, medicine, weather forecasting, industry, translation, natural language, linguistics, etc. In Europe, interest in AI has been rising in the last decade. One of the greatest hurdles for researchers in automated processing of technical documentation is large amounts of specific terminology. The aim of this research is to analyse the semi-automatically extracted artificial intelligence-related terminology and the most common phrases related to artificial intelligence in English and Lithuanian in terms of their structure, multidisciplinarity and connotation. For selection and analysis of terms, two programmes were chosen in this study, namely *SynchroTerm* and *SketchEngine*. The paper presents the outcomes of an AI terminological project carried out with *SynchroTerm* and provides an analysis of a special corpus compiled in the field of artificial intelligence using the *SketchEngine* platform. The analysis of semi-automatic term extraction use and corpus-based techniques for artificial intelligence-related terminology revealed that AI as a specialized domain contains multidisciplinary terminology, and is complex and dynamic. The empiric data shows that the context is essential for the evaluation of the concept under analysis and reveals the different connotation of the term.
Keywords: artificial intelligence, domain-specific corpus, semi-automatic term extraction, terminology, collocates

1 Introduction

Artificial Intelligence (AI) is a highly multidisciplinary and active field, combining computer science, robotics and cognitive science, with potentially transformative applications in many other areas, such as science, engineering, industry, linguistics, translation and society. The history of the development of AI has been wavy since its beginning in the middle of 20th century. Together with the development of AI technologies, machine learning in the field of linguistics, including terminology, lexicography and semantics, has evolved as well. Investments and interest in AI boomed in the first decades of the 21st century when machine learning was successfully applied to solving many problems in academia and industry. Interest in AI in Europe has increased in the last decade. In 2019, the Lithuanian Government officially confirmed the *Lithuanian Artificial Intelligence Strategy* (Ministry of the Economy and Innovation, online). The *Strategy* presents the strengths and weaknesses of AI in Lithuania, including ethical and legal core principles for the development and use of artificial intelligence, the position of Lithuania in the AI ecosystem, integration of artificial intelligence systems in economic sectors, the future vision of artificial intelligence, etc.

One of the greatest difficulties in automated processing of technical documentation is large amounts of specific terminology that is characteristic to such domains. As AI is constantly improving its skills, it can be presumed that it should have abundant and perhaps well-established terminology. Nevertheless, the analysis of AI terminology similarly to any other domain-specific terminology poses two major challenges: how to

identify domain-specific terms in the documents and how efficiently process them. Nowadays, terminology and terminography have a very strong relation with computer technologies. While some tools are very popular, others are not convenient for certain languages, especially with reference to annotated corpora and automatic terms extraction tools. For the purposes of this research, two programmes, namely *SynchroTerm* and *SketchEngine*, were chosen for selection and analysis of terms. The choice was made based on the research carried out by Havrylenko (2019) who compared seven programs for automatic extraction of terms and found out that *SketchEngine* demonstrated better results than other tools and that this online platform was promising for compiling monolingual and bilingual lexicographic resources.

Identification and extraction of terms from texts or corpora is now a well-known and widely explored step in the processes of building terminology, constructing dictionaries, creating translation memories, etc. (Foo, 2012). The aim of this research is to analyse the semi-automatically extracted artificial intelligence-related terminology and the most common phrases related to artificial intelligence in English and Lithuanians in terms of structure, multidisciplinarity and connotation.

2. Analysis of semi-automatically extracted AI-related terminology using *SynchroTerm*

The first part of the research paper presents the outcomes of an AI terminological project carried out with *SynchroTerm*, a bilingual term extractor developed by *Terminotix* (Terminotix, 2020). *SynchroTerm* allows users to extract terms and create terminology records from source and target document pairs and translation memories. The tool is compatible with 30 languages, including English and Lithuanian, and it automatically extracts source terms, their equivalents and their contexts from file pairs into any format[1]. For the pilot analysis of AI terminology extraction, the document *Building Trust in Human-Centric Artificial Intelligence* from *The Communication from the Commission*[2] (published in 2019) was chosen; and in this research, it plays the role of a domain-specific corpus. The main task at this stage of the research was to select potential AI terms in order to determine the semantic core of the multidisciplinary area and find out the main fields of terminology in this area. *Synchroterm* provided a list of 150 English AI-related multi-word term candidates, the number of their occurrences and the equivalents in the Lithuanian language. After clicking on a term, the context was given in the bottom section (see Fig. 1).

In the next step, the record was created and transferred to the term base. The list was thoroughly inspected and checked manually. Despite the conclusion made in a similar research that the quality of terms retrieved by using *SynchroTerm* tool was notably higher than in those extracted by *memoQ* or *SDL MultiTerm Extract* (Havrylenko, 2019, p. 31), only 30 grammatically correct and semantically meaningful phrases were designated as AI terminological units or AI-related phrases and chosen for the analysis in this research. All phrases are mentioned in this paper from a structural point of view as well as in an attempt to find out which areas of terminology and vocabulary form the framework of concepts related to artificial intelligence.

The study also investigated the structural characteristics of the selected terms and determined the morphological and syntactic differences of the structure of multi-word

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[1] The translators in European Commission use this program too, and our colleagues from the Lithuanian Language Department in the General Directorate of Translation kindly helped us to get the list of term candidates for this research because this software is commercial and the university has not obtained the licenses yet.

terms in English and Lithuanian. The analysis of the list of term candidates in both English (source extraction) and Lithuanian (target extraction) documents showed that the English abbreviation *AI* was always translated into Lithuanian as a two-word combination *dirbtinis intelektas* like all other multi-word terms with *AI*, e.g., *AI systems* (*dirbtinio intelekto sistemos*)*, AI ethics* (*dirbtinio intelekto etika*).
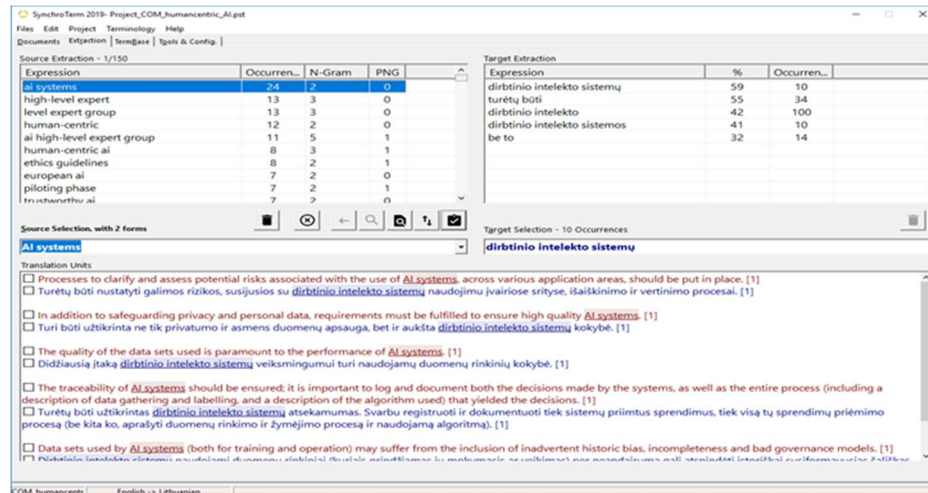

Fig. 1: *Synchroterm* snapshot

The most frequent term in the source entry list found 24 times was *AI systems*. The Lithuanian equivalent in the target entry list was *dirbtinio intelekto sistemų,* found only 10 times. This is obvious evidence of the complexity when comparing morphologically different languages. These 10 Lithuanian occurrences were mainly expressed in the genitive case. Other plural cases that were not recognised by the tool included 4 datives, 4 accusatives and 6 nominatives. These findings show the usage of words (in a multi-word term) in different grammatical cases in the Lithuanian language that is a synthetic language with an old and rich inflectional system. All the cases were the equivalents for one English plural term *AI systems* (see Table 1).

EN	LT
Pl. AI systems (24)	Pl. genitive: *dirbtinio intelekto sistem-ų* (10);
	Pl. nominative: *dirbtinio intelekto sistem-os* (6)
	Pl. accusative: *dirbtinio intelekto sistem-as* (4)
	Pl. dative: *dirbtinio intelekto sistem-oms* (4)

Tab. 1: Distribution of the lemma *AI systems* (*dirbtinio intelekto sistemos*) in different grammatical cases

Obviously, phrases with main concept AI (*Artificial Intelligence*) prevail in this term candidate list, which formed the semantic core of the analysed domain-specific area, the boundaries of which were determined by the text register and genre. Thus, the phrases under analysis are binary, i.e., they consist of the head noun phrase (two-word term) *AI* (*dirbtinis intelektas*) and its modifiers. Depending on the grammatical and functional features of the words modifying the basic concept, three most common structural types of English term candidates were distinguished. The first type included terms with one attributive adjective modifier. The Lithuanian equivalents did not always have identical

or very similar structures, e.g., *ethical AI* (*etiškas dirbtinis intelektas*)*, trustworthy AI* (*patikimas dirbtinis intelektas*), etc. Due to grammatical features of the Lithuanian language, an adjective is sometimes translated as a noun, e.g., *European AI* (*Europos dirbtinis intelektas*). The second type included the candidate terms where *AI* (*dirbtinis intelektas*) was a modifier of the noun or the noun phrase, e.g., *AI development* (*dirbtinio intelekto plėtojimo*), *AI ethics* (*dirbtinio intelekto etikos*), *AI ethics guidelines* (*dirbtinio intelekto etikos gairės*). The third group of terms included English terms with the noun as a modifier of the term *AI* (*dirbtinis* intelektas) that in some cases was used with related words, e.g., *use of AI* (*dirbtinio intelekto vartojimas*), *key requirements for AI* (*reikalavimai dirbtiniam intelektui*). The Lithuanian equivalents were often of the second type structure mentioned above. The fact that the Lithuanian language uses fewer functional words is also determined by the above-mentioned flexural nature of the Lithuanian language.

The three phrases in this list of *AI* term candidates were different in their form, e.g., *human-in-the-loop* (*HITL*), *human-on-the-loop* (*HOTL*), *human-in-command* (*HIC*). These terms had equivalents in descriptive forms in the Lithuanian texts. For example, *human-in-the-loop* had an equivalent *žmogus dalyvauja procese* (that means 'human participates in the process'); *human-on-the loop* had an equivalent *žmogus prižiūri procesą* (that means 'human looks after the process'); and *human-in-command* had an equivalent *žmogus valdo procesą* (that means 'human rules over the process').

The abbreviation *AI4EU* in the analysed document did not have terminological structural equivalents in the Lithuanian version. Instead, the full description was used (*dirbtinis intelektas Europai*). Abbreviations of such type are not common in Lithuanian scientific discourse and are considered to be unofficial.

Although two-, three or four-word terms were common in the primary list of term candidates, many phrases were general collocations (w*ide range, brings together, next steps, setting up, high-performance*) or phrases that could be used in domains other than artificial intelligence, especially in the politic discourse, e.g., *European Parliament* (*Europos Parlamentas*), *fundamental rights* (*pagrindinių teisių*), *international organisations* (*tarptautinės organizacijos*), *non-EU countries* (*ne ES šalys*); *General Data Protection Regulation* (*Bendruoju duomenų apsaugos* reglamentu), etc. This was a group of important terms related to human rights and personal data protection. Some candidates in this list were not semantically complete terms as the main component of the multi-word term was missing, e.g., *human-centric* (*į žmogų orientuotas*). The candidate term was another phrase, i.e., *human-centric AI* (*į žmogų orientuotas dirbtinis intelektas*). As mentioned above, the comparison of the two lists showed that the program did not always accurately determine the equivalent. It suggested another phrase in the same sentence; therefore, manual checking of the list was necessary. For example, *the piloting phase* is not *suinteresuotieji subjektai* (Eng. *stakeholders*). The list of potential terms showed that the document did not solely refer to AI as a technology, but emphasized its relation to the society, ethics and impact on humans. All this shows that the humanities, social sciences, especially human rights and personal data protection related terminology, form a significant part of the multidisciplinary AI terminology system.

3. Domain-specific corpus based collocational analysis of the concept *dirbtinis intelektas* (*Artificial Intelligence*)

In the descriptive terminology, context plays a vital role in the analysis of a term, i.e., a term is assumed as a lexical unit depending on its context. According to Maynard and Ananiadou (2000, n.d.), "Terminological contexts, however, are vast information sources waiting to be tapped, and are even more useful for domain-specific applications than for

general language ones". A wider and more diverse context is necessary for deeper analysis of AI terminology. Cabré et al. (2012) mentioned the importance of creating a domain-specific corpus. The researchers claim that terminologists need to become familiar with the domain language, perform terminology and keywords extractions, conduct statistical analysis and obtain complementary information about the terms, including semantic, syntactic and collocational clues (ibid.) Terminology research based on corpus analysis has been done in many different fields, such as social sciences, humanities (Yuliawati et al., 2018; Rimkutė, 2012; Markievicz and Rimkutė, 2013; Biel et al., 2018), information technologies (Izwaini, 2005), etc. Therefore, the method of corpus based term recognition and contextual analysis of their structure used in this study is reliable and suitable for exploring the terms of such a rapidly developing field as artificial intelligence.

In order to have a more comprehensive view of the use of the basic concept, a special Lithuanian corpus *AI_DI* in the field of artificial intelligence using the *SketchEngine* platform was compiled. For this purpose, concordances, word lists and other elements that show real usage, frequency and structure and reveal an evaluation of a concept that is still completely unknown were used in this project (see Fig. 2).
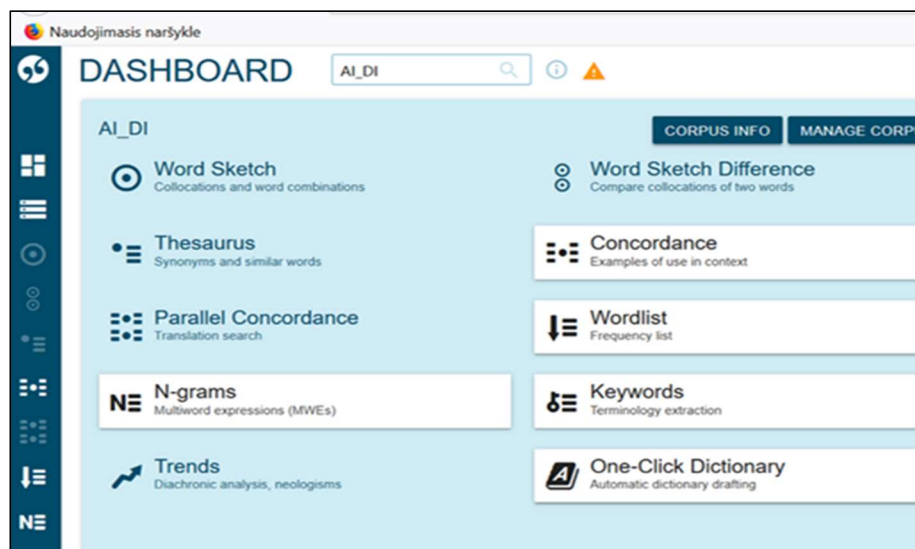

Fig. 2: Lithuanian internet corpus *AI_DI* (in *SketchEngine*)

Although the corpus *AI_DI* consists of about 1 million word forms, it is quiet representative because it was collected for this research from different artificial-intelligence-related articles, websites of universities, popular sciences journals, educational platforms, etc. This focus corpus was not annotated, so only the key words can be checked, which on their high quantity had been used to study the representation of AI in Lithuanian press and media.

In total, 493 occurrences of the term *dirbtinis intelektas* (*artifficial intelligence*) were found in the Lithuanian corpus: 101 nominative, 306 genitive, 11 dative, 47 accusative and 28 instrumental cases. No terms were found in the locative case. As this corpus was not annotated, the meaning and structure modifiers of the term *artificial intelligence* (dirbtinis intelektas) could be seen by the KWIC or by the token to the left or right of KWIC. Thus, the research also used the collocational analysis method. Smirnova and Rackevičienė (2018, p. 90) with reference to the research carried out by Atkins et al. (2003) claimed that the collocational analysis enabled the observation of the whole variety of co-occurring words and established the predominant co-occurrence patterns

and described their meanings based on their contextual environment. The collocational method may be used not only for collocations and collocates but for the extraction of multi-word terms as well. According to Nakagawa (2001), this methodology is based on the assumption that complex terms are made of existing simple terms. The part of the noun or adjective phrases from the collocation lists are terms or potential terms. The extraction of the phrases including the complex term *dirbtinis intelektas* (*AI*) as the head term with left and right collocates in this corpus was partly manual. Their wider context was analysed using the concordance tool (see Fig. 3) that was very suitable for lexical aspect of terminological analysis (Petrauskaitė, 2010).
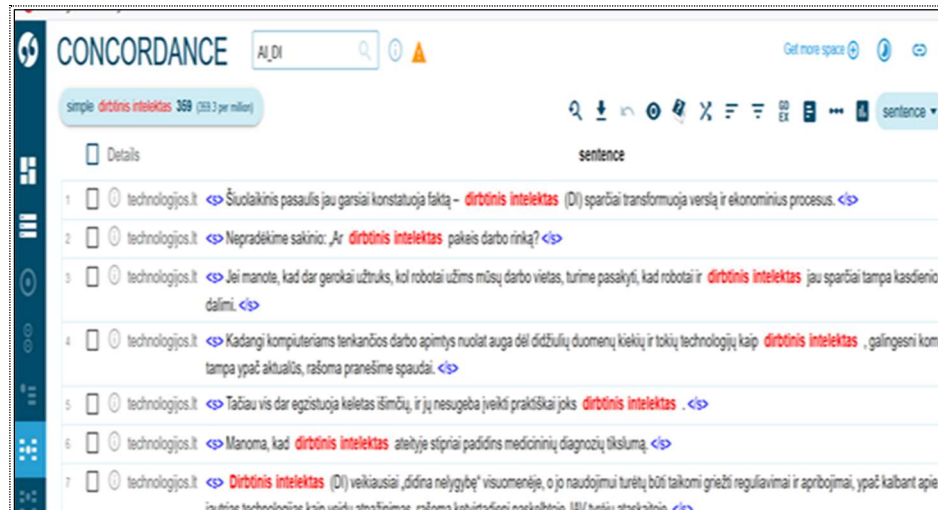

Fig. 3: Concordance from *SketchEngine*

After analysing all 493 concordances with the Lithuanian term *dirbtinis intelektas* (*AI*) with collocates, 4 main types of multi-word collocations were distinguished, including multi-word terms or candidate terms, namely noun collocates next to the nude concept in the first position from the right (1R (noun)), adjective collocates in the first position next to the analysed concept *artificial intelligence* (*AI*) from the left (1 L (adjective)) or in the second or in the third position from the right (2R, 3R (adjective)) and verb collocates from the right and in the first position (1 R (verb)).

Dirbtinio intelekto / *AI* **+ 1R (noun) collocate**. The majority of phrases were combined with the noun on the right. Most of them were combined with abstract, verbal nouns with the suffixes *-imas* or *-ymas*. This confirmed the fact that the names of actions with suffices are the most frequent category for compiling terms in the Lithuanian language (Keinys, 2005 [1975]: 23), e.g*.: dirbtinio intelekto panaudojimas* (*AI usage*), *dirbtinio intelekto kūrimas* (*AI creation*), *dirbtinio intelekto pritaikymas* (*AI application*), *dirbtinio intelekto plėtojimas* (*AI development*). Artificial intelligence is a frequently discussed phenomenon, which was evident by the phrase *dirbtinio intelekto klausimas* (*AI question*). Among these phrases, there are collocations that were included in *SynchroTerm* list of potential *AI* terms, such as *dirbtinio intelekto etika* (*AI ethics*)*, dirbtinio intelekto strategija* (*AI strategy*)*, dirbtinio intelekto sistema* (*AI system*), *dirbtinio intelekto technologija* (*AI technology*). Possessive case relationships in this situation are very strong, the main component *dirbtinis intelektas* (*AI*) is used in the genitive case (*dirbtinio intelekto*) and depends on the collocate that is most often used in the nominative case.

1 L (adjective) collocate + *dirbtinis intelektas / AI.* The most typical adjective or adjective phrases for the Lithuanian language are in the position of the left collocate. In other words, they are prenominal modifiers or attributes of noun phrase; and the collocate is combined with the main component. In this research, many terms were compiled from an adjective or a participle and a noun. This principle was also applied to the term *dirbtinis intelektas* (*AI*). Thus, one more adjective on the left side was not part of the term but part of the modifier with semantic connotation that mainly had a positive meaning and reflected progress, e.g., *pažangus, sąmoningas, pažengęs, etiškas dirbtinis intelektas* (*advanced, conscious, progressive, ethical AI*). One of the most interesting findings was that almost all adjectives could be used to describe a person as well, while *AI* is described as *human-level AI*. Thus, the word *intelektas* (*intelligence*) as an object had 2 modifiers, *dirbtinis* (*artificial*) as a terminological modifier and the second one, which modifies the meaning of the two-word term *dirbtinis intelektas* (see Fig. 4) and has a positive connotation.
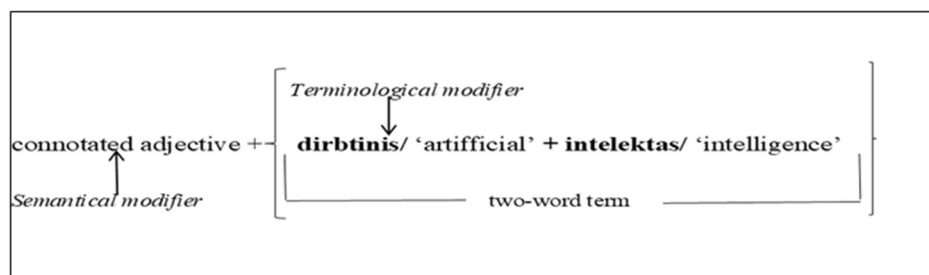

Fig. 4: Structure of the term *dirbtinis intelektas* (*artificial intelligence*) with modifiers

Dirbtinis intelektas / *AI* **+ 2R or 3R (adjective) collocate**. The adjective in the position of the second or third right collocate performed the predicative function and was part of a compound predicate. In this group, *dirbtinis intelektas* was a subject, while different forms of the verb *to be* used with an adjective had the function of a predicate. The most frequent terms were *yra* <u>*patikimas*</u> (*trustworthy*) and *gali būti* <u>*naudingas*</u> (*useful*). Another example was *dirbtinis intelektas nėra* <u>*savatikslis*</u> (*AI is not self-directed*). The analysis revealed that the term *AI* with adjectives, regardless of their position next to the analysed concept as collocates, was perceived as ambiguous, e.g., *itin pažangus dirbtinis intelektas galėtų būti nenuspėjamas* (*highly advanced artificial intelligence could be unpredictable*). In this example, two different connotations were noticed, i.e., in the first case, the modifier was positive (*highly advanced*), while in the second case, it was negatively connoted (*unpredictable*).

Dirbtinis intelektas / *AI* **+ 2 R (verb) collocate**. When considering verbal collocations of the term AI, the connotations were predominantly positive. The context demonstrated huge potential and important possibilities of artificial intelligence, e.g., *Jis [DI] gali padėti nustatyti grėsmes kibernetiniam saugumui ir sukčiavimo atvejus* (*It [AI] can help detect cybersecurity threats and fraud*); *Dirbtinis intelektas treniruojasi rašyti lietuviškus romanus* (*Artificial Intelligence is learning to write Lithuanian novels*); *Dirbtinis intelektas turi didžiulį potencialą pakeisti ligos diagnozavimą ir valdymą* (*Artificial Intelligence has great potential to change the diagnosis and management of the disease*). The context in concordances may as well reflect the fact that verbal phrases indicate a perceived threat, doubt and other negative emotions, e.g., *„Dirbtinis intelektas gali reikšti žmonių giminės pabaigą,“ – pasakė Hokingas BBC laidoje* (*Professor Steven Hocking in 2014 told the BBC: "The development of full artificial intelligence could spell the end of the human race"*);

Dirbtinis intelektas žmonijai kelia didžiausią egzistencinį pavojų (*Artificial Intelligence poses the greatest existential danger to humanity*).

Thus, the study of different structural types of collocations with the term *artificial intelligence* revealed the structure of multi-word terms. Collocations and free phrases were most common to the Lithuanian language. The informative content showed that artificial intelligence was most often mentioned in social sciences and humanities in the context of societal, scientific and technological progress. On the contrary, with regards to technological aspects of robotics, information technology, etc. artificial intelligence was rarely discussed.

Conclusions

The analysis of semi-automatic term extraction use and corpus-based techniques for artificial intelligence-related terminology reflected the fact that AI as a specialized domain was complex and dynamic and contained multidisciplinary terminology. In texts aimed at a wide audience of readers, AI was mainly considered in the context of ethics and protection of personal data as well as the progress of society, science and technology.

The Lithuanian two-word term *dirbtinis intelektas* (*AI*) was commonly used in the genitive case with the noun collocate to the right and served a descriptive function. The second most frequent phrase was used with an adjective on the left and indicated the desired characteristics of artificial intelligence. The empiric data showed that the context was essential for the evaluation of the concept under analysis, and revealed the connotation of the term. It was also determined that the term *artificial intelligence* (*AI*) and the Lithuanian equivalent *dirbtinis intelektas* possessed both positive and negative semantic connotations, whereas the modifiers and short phrases were predominantly positive.

Further and more extensive research is needed in order to provide a more detailed terminological analysis. The corpus of artificial intelligence could be expanded and annotated, especially for technical texts. A more detailed and comprehensive analysis of the terms and term candidates should be carried out and an analysis of the terms of artificial intelligence as translation equivalents could be composed in further research.

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The positive benefits of the practical application of the simulation software

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Abstract
The research, related to innovation has been in a focus of academics for a long time. In the current study, the authors present the positive benefits of applying an innovative teaching method, based on primary research, applying a questionnaire-based survey. They targeted to examine how a business simulation software modifies the labour market efficiency of university students. The respondents consider themselves to be least competitive in terms of self-confidence and an initiative ability. Both skills can be developed as a result of the application of the business simulation software.
Keywords: innovation, different generations, playful learning, labour market efficiency

Introduction

Currently we are being faced by constant change, which is accompanied with innovation in different fields of our life. The term "innovation" is associated with the name of Schumpeter in historical context. He defined innovation as a process, which starts with a creative idea that can be implemented into practice. Since our research is focusing on innovation applied in education, we will introduce the theoretical background of the issue in this context. Our study will present the difference between the generations and their characteristics, as well as their position on the labour market. One of the biggest challenges of the corporate sector is the coordination of cooperation and working methods of these generations. The focus shifts on online activity of the younger generation and their commitment to IT tools. In contrast to emphasizing the negative impact of the above-mentioned tools, the authors will introduce the positive, labour market enhancing use of innovative teaching methods.

1 Innovative teaching methods

Innovation is also present in the education, which contributes to efficiency of education, supports the teacher in work and enables them to apply different methods of knowledge transfer, as well as provides students with an opportunity to try new methods of acquiring knowledge. Since the students participating in education process are different, the use of different methods in the education process can lead to selection of the most effective methods to be applied in the education process. Szőköl (2018), Falus (2001), Radnóti (2006), Hunya (2009; 2010) and Fejes (2013) examined the teaching methods used on individual lessons. All the findings prove that applying innovative methods to support learning are still rare. Instead, traditional teaching methods dominate. The innovative teaching methods may significantly change the traditional lessons; lectures are a time-consuming activity. It is interesting that mostly the older teachers are open to experimenting in teaching methods. According to Radnóti (2016), the reason might be that young teachers have little experience and insist on methods they

have experience with from their university years (Czakó et al., 2017). Daruka and Csillik (2015) targeted the issue of teacher training in the field of Economics. They came to conclusion that the given qualification consists of gaining theoretical knowledge, while development of skills and competencies lacks behind. It is mostly about independent thinking, understanding different approaches, interpretive and critical attitudes, short-term and long-term impact of decisions that appear at a certain level and quality of professional training (Máté & Kiss. 2017). Certain skills and competencies are not addressed adequately e. g. respecting the rules, conflict resolution (value and interest), consideration and understanding of different approaches, development of culture of discussion, competition, educational attitudes supporting learning. They came to conclusion that the teachers of Economics are not sufficiently trained to develop certain skills because they themselves do not receive adequate training in teacher education (Czakó et al., 2017). According to Makó (2015), the low professional qualification and the weak general knowledge threaten the competitiveness in any segment of the labour market. The skills that the students have learned at university, will be utilized to build their currently non-existing professional career in the future. Students have to acquire critical thinking, social and ethical responsibility in order to become the future world leaders or valuable citizens. Students have to learn skills that will prepare them for successful life in the modern world. It is important that students:

- understand the deep conceptual background of the chosen discipline,
- learn to be able to work effectively in mixed teams,
- approach challenges with curiosity, develop critical thinking and creativity,
- use their skills in innovative way to solve complex problems,
- understand and respect different cultures and perspectives,
- thrive effectively and independently in their profession,
- become charismatic individuals both personally and professionally.

In almost all areas of our lives – work, technology and the environment there is an accelerated change, which places new requirements on university students. They have to be prepared for the future, be prepared to deal with complex multidisciplinary problems, be able to present new perspectives on global challenges and be motivated to become leaders in their professional field (Schwab, 2016).

Tertiary education in the 21st century is more than just gaining knowledge in a single discipline. The skills, such as critical thinking, creative problem-solving, teamwork and communication have become valuable skills. The amount of data and information has multiplied, and therefore navigation, selection, critical evaluation and decision-making skills are essential to succeed in the modern society. Modern tertiary education is no longer about the transfer of information. Students should be taught to interpret concepts, facts, ideas, how to think and act professionally, and how to master valuable knowledge and findings essential in the society.

Significant is the research conducted by Deslauriers, Schelew and Wieman (2011), where the results clearly present that traditional lecture-oriented education does not deliver the desired results in terms of acquiring key skills of the 21st century. Educational techniques that are more interactive and allow students to participate on lectures, will result in strengthening their personal and professional identity, support learning and strengthen social feelings. As a positive outcome, they will be more goal-oriented not only in the classroom, but in practical life as well (Holmes, Wieman, & Bonn, 2015). According to Freeman et al. (2014), the active learning methods increase the effectiveness of education by providing a deeper understanding of concepts. According to Talbota et al.

(2106), the transition to active education allows students to spend most of their time in classroom with activities requiring collection of wide range of information. This can be achieved by applying different methods, e.g. using electronic appliances, answering questions, filling out form, examining a problem, discussion with other students. The strategy of education should include the following aspects:

- guided preparation for lessons,
- time for reflection,
- applying mixed teaching techniques,
- increased emphasis on applying knowledge,
- the "importance" of incorrect answer,
- the need for different measurement methods.

The results of various research show that active education improves the educational process by applying several starting points for the students (Deslauriers, Schelew, & Wieman, 2011; Freeman et al., 2014; Rozsa, 2018).

2 Generations on the labour market

Currently, there are representatives of several generations on the labour market, which can be clearly identified on the basis of predefined specifics (demographic data, attitude, work experience, etc.). Recognition of the characteristics of individual groups is essential in terms of the company success, as it is important to create harmonious working environment and relationship based on mutual trust, equality and determination (Tej, Vagaš, & Miško, 2019).

If the new generation actively enters the labour market (around the year 2020), a labour market is created, where members of five different generations will be present. This fact is a great challenge for organizations since it is crucial to approach different generations, to be able to address and utilize the different values and expectations of these generations.
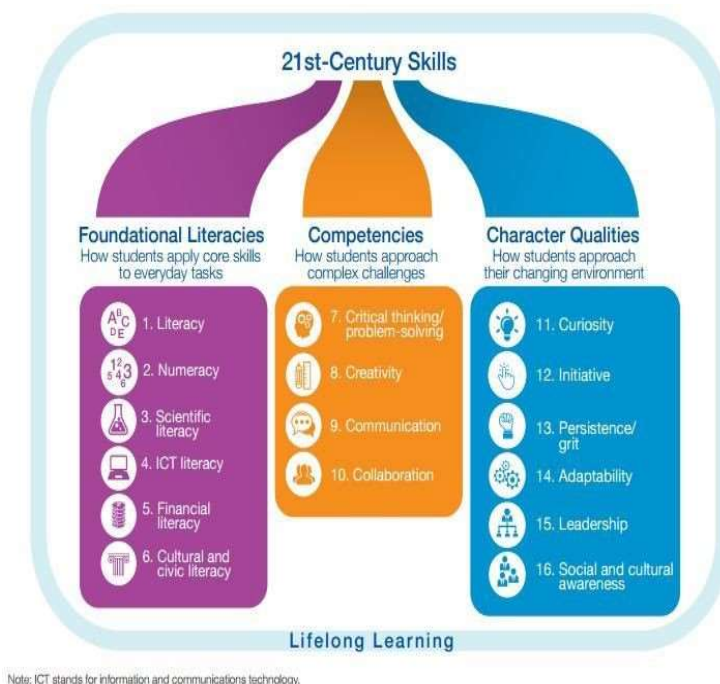

Figure 1: Key skills on the labour market in the 21st century (source: WEF, 2016, online)

Technological skills are the most essential on the 21st century labour market. Most of the skills on the global labour market are interconnected. The basic managerial skills are the following: cooperation and teamwork, creativity and imagination, critical thinking, problem-solving, flexibility, cultural awareness, information literacy, technological and civic literacy, social responsibility and ethics.

It is important to understand the motivation of different generations, but also necessary to understand the differences. As a manager, it is important to motivate each of the employees to work effectively and support to develop their strengths. The following figure shows several options for managing multigenerational workplaces.

Several analyses show a growing gap between the theoretical knowledge and the practical experience. The required skills (that can be developed within the framework of gamification) include the following 16 key competencies of the individual, which help them to find job on the labour market.

3 Gamification and its use in education

We can often hear from the members of older generation how different the representatives of younger generation are. We can conclude that each generation is somewhat different from the previous one, which is also influenced by the environment of the individual. This fact is not different even in the age of accelerated flow of information. The development of information technology has impact on the students currently entering the university education, and will have even bigger impact on children.

Playful education has been a part of pedagogy for a long time, games with educational purpose appeared quite early. When introducing game, game elements and techniques are used, but the goal is not the play itself, but the increase of interest and efficiency (Rigóczki, 2016; Zichermann & Cunningham, 2011).

Gamification tools in education can be used to raise awareness and increase motivation. According to Kenéz (2016), gamification can be used in all subjects and courses, in case of any topic and technical conditions, with any number of students. The introduction of game is a system application, which requires planning. According to Werbach and Hunter (2012), it is important to start with certain goals. All the tools and goals work properly, if the players have good experience, pleasure and are motivated by the game.

The goals can focus on the lesson (higher participation of students, attention, commitment), work from home, continuity of education – which seems to be the most problematic. It is advised to choose one goal first, and make it a measurable factor for comparison (Kenéz, 2016).

Similarly, as gamification is present in development of the individual or group, we can recognize it in other areas of life. For us as teachers, it is necessary to be informed what kind of opportunities we have in the system of formal education, and where game can be introduced to students (Kenéz, 2016).

Game and game elements are part of our life. It does not depend what stage of intellectual development children are, they are in contact with toys. Conscious parents select the appropriate toys for their children, which contribute to quick development of their skills.

If we intend to define "gamification ", it is necessary to mention Huizinga, who already stated in 1944 that in the evolution of humanity we entered the phase of "homo ludens" – Man the Player. In this era, the game plays a major role in the human culture. Play elements gradually cover all the aspects of our life. Huizinga defined the term "play" as follows:

"Play as a free activity standing quite consciously outside 'ordinary' life as being 'not serious' but at the same time absorbing the player intensely and utterly. It proceeds within its own proper boundaries of time and space, according to fixed rules and in an orderly manner" (Huizinga, 1944, p. 14).

It is important to note that the definition provided by Huizinga draws the attention to the fact that the play must be performed according to certain rules. According to Zichermann and Linder (2013, p. 115), a broader interpretation of the term is "play is considered to be any activity that brings pleasure and relax".

In addition to these definitions, many philosophers and sociologists provided their own definition of play, but the easiest way to define "play" is as an activity that has no direct purpose only to entertain and ensure the feeling of freedom (Zelenková & Hanesová, 2019).

There are many similarities between the serious game and the game defined in the previous paragraphs, but there is a fundamental difference between the serious game and game. While the main purpose of the game is entertainment, in the case of serious game it has only a secondary function. The main purpose of serious game is to facilitate the learning process, as well as it can be applied in different fields of life. In addition to education it can be also used in the field of industry, military, medicine, religion and politics. Serious game is a part of gamification, but it is not a necessary condition for gamification (Pacsi-Szabó, 2017; Deterding et al., 2011).

4 Results of empirical research

The aim of the research is to map the experience related to practical use of the simulation software as an innovative teaching method. To achieve our goal, we conducted primary research in the form of a questionnaire survey. The questionnaire was completed anonymously in October 2019 and February 2020. Evaluating sampling as a form of non-random sampling was applied, the selection of elements is based on the researcher's decision. There were collected 256 questionnaires that could be evaluated before application of the simulation software, 236 questionnaires were evaluated after the application of the software. We used SPSS to analyse the obtained data.

To achieve the research goals, the research questions were outlined:

1. How do people who have already used/have not used simulation software during their education evaluate the labour market efficiency of this tool? How did the opinion of the respondents change who used the simulation software?

2. Is it possible to form different groups based on playful interaction among the students?

In addition to univariate analyses, e.g. mean, mode, standard deviation, which provide an insight into the opinion of the respondents, we also applied multivariate analysis for deeper analysis of the obtained data. In this research the cluster analysis will be highlighted. The main objective was to obtain detailed information about the individuals forming certain groups. The Ward-method, as a hierarchical method was used for cluster analysis.

$$d_{Ward}(C_i, C_j) = \sum_{u,v \in C_i \cup C_j} d^2(u,v) - \left(\sum_{u,v \in C_i} d^2(u,v) + \sum_{u,v \in C_j} d^2(u,v) \right)$$

Using the Ward's method, we can minimize the squares within the clusters, and merge the two clusters that cause the lowest square error increase (Fogaras & Lukács, 2005). Within the clusters we conducted the cluster table analysis related to gender, place of

residence and generation group of the respondents. The further relationship between the factors was examined using a Chi-Square test and Cramer V.

Our first research question examined how individuals who already had as well as have not had experience with simulation software in their educational process can measure their efficiency on the labour market. We also examined how the opinion of these groups changed after using the simulation software. At first, we examined the entire sample, how the respondents feel about their efficiency on the labour market. To perform the analysis, the mean, mode and standard deviation indicators were taken into account. In the case of 12 statements examining labour market efficiency on Likert scale, 3 of the statements achieved lower average, so the respondents rather agreed with the statements than not. The most positive opinion was expressed to the statement "I take responsibility for my actions"(4.4). This was followed by the statement about independent and determined decision-making (4.2), and the statement about commitment to further development (4.1). In terms of responsibility, there is less agreement among the members of Generation Y. In this case we experienced the largest deviation from 1. The least positive our respondents were regarding the initiative ability (3.00) and the appropriate level of self-confidence (3.3). These are the skills that need development among the students. As a benefit of the simulation software, we should mention that the mentioned competencies can be developed with the help of the software applied in the education process. As for the competence of initiative, generation Y expressed even more negative opinion than the younger generation. The group average remained under the value of 3. Positive opinion about self-confidence was provided by male respondents. A deeper analysis of Generation Y shows that apart from the statement about self-confidence, women tend to have more positive opinion, consider themselves more valuable on the labour market, while in the case of Generation Z, the male respondents expressed more positive opinion.

As a next step, we will continue by answering the first half of our research question. The following table summarises the results.

	Primary education		Secondary education		Tertiary education	
	yes	no	yes	no	yes	no
I am good at problem-solving.	4.3	3.8	4	3.8	3.9	3.8
I do my job independently and accurately.	4	3.9	3.9	3.9	3.4	4
I have a high degree of initiative.	3.7	2.9	3.1	2.9	3.6	2.9
I can co-operate with others in team.	4.3	3.7	3.9	3.6	4.4	3.5
I am committed to my further development.	4	4.1	3.9	4.1	4.3	4.1
I take responsibility for my actions.	4.7	4.4	4.4	4.4	4.7	4.4
I am decisive and can make decisions on my own.	4.3	4.2	4.5	4.1	4.6	4.1
I am open to change.	4.7	3.9	4.1	3.9	4.9	3.8
I have an adequate level of self-confidence.	3	3.3	3.6	3.3	3.9	3.3
I can easily process the information I receive.	4	3.7	4	3.7	4.3	3.7
I find easily understand myself face-to-face.	4	3.7	3.9	3.7	4.4	3.6
I respond flexibly to the changes of the environment.	4	3.6	3.8	3.6	4	3.6

Tab. 1: Assessing labour market efficiency by those having and not having experience with a simulation software

Based on the obtained results, in almost all cases the respondents who have already had experience with a stimulation software at any stage of their education, expressed positive opinion about their efficiency entering the labour market. The results of our research support our preliminary expectations that using simulation softwares in the education process has importance and benefits. The students became better in problem-solving, developed and ability to do their work independently and accurately, use their initiative, good at teamwork, take on responsibility for their actions, feel free to make decisions, open to changes, developed enough self-confidence, have an ability to process the information they receive, get on well with their environment and respond flexibly to changes. In the case of „commitment to further development" there is no change in behaviour when applying the software.

In order to answer the second half of the fifth research question, the averages had to be also compared. The same 12 statements that we have analysed before applying the software, the students were asked after applying the software. The obtained results are presented in the figure below.
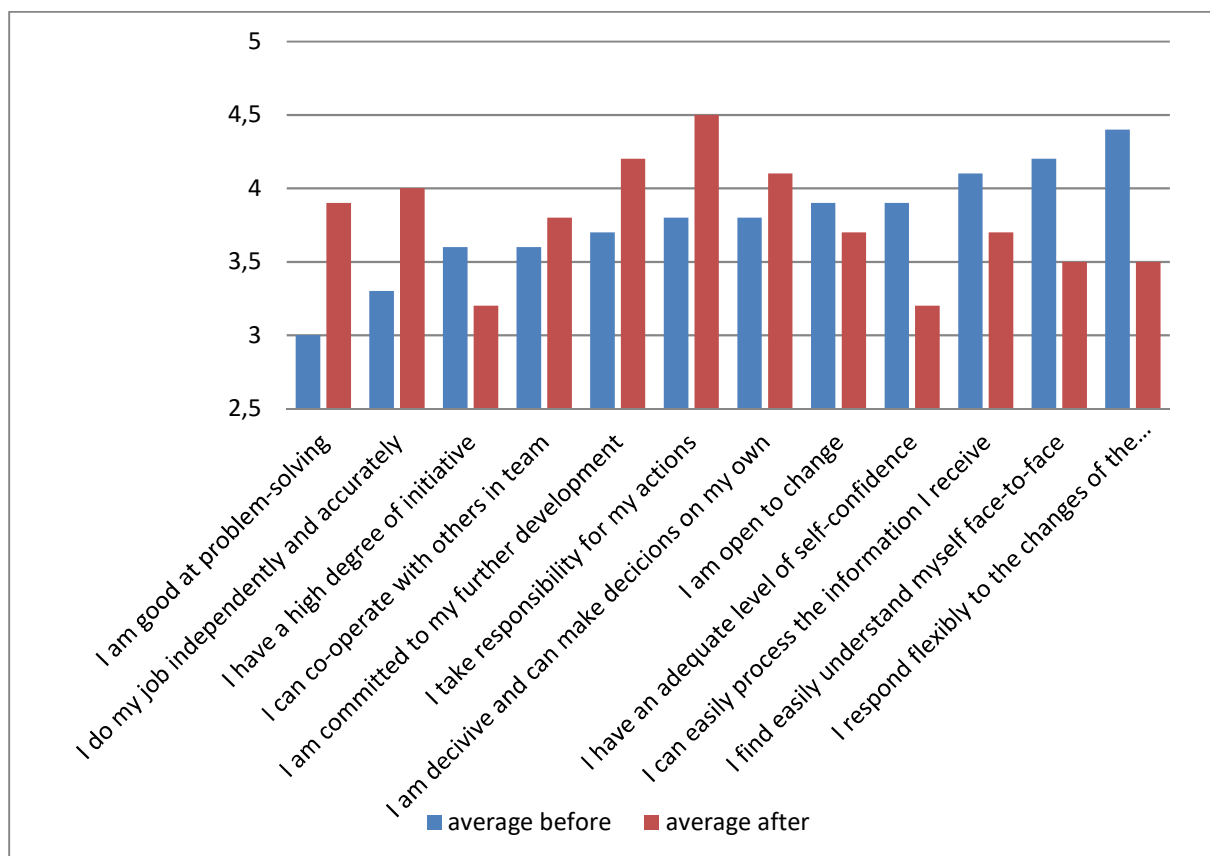

Figure 2: Assessing labour market efficiency before and after applying the simulation software

The figure above shows that the application of simulation has improved vs worsened the efficiency of the graduates on the labour market in 50/50. The initiative ability and the self-confidence of the students have increased significantly, which gained the lowest average in the previous research showing the average of 3 and 3.3. Positive change can be detected in the improvement of problem-solving ability and the oral communication. There is only a small change or improvement in the flexibility of responding to

environmental challenges and processing the obtained information. Negative change after applying the software was detected in the case of 6 factors. Students assessed themselves worse in terms of responsibility, independent and determined decision-making, and openness to change than before applying the method. Small but negative change can be detected in terms of teamwork, commitment to self-development and the independent, accurate work. Summarizing the outputs, we can find positive the improvement of the two weakest characteristics of the students, the initiative and the self-confidence, which are the key factors of the competitive labour market. It is difficult to imagine a success without the existence of the mentioned skills.

The second research question focused on creating different groups of students based on the assessment of playful learning. In order to answer the question, a cluster analysis was used in the SPSS system. The aim of the method is to arrange the observation units into a homogeneous group based on the variables involved in the analysis. The process of cluster analysis was started by defining the problem and formulating the research question. The last question of the questionnaire was relevant following the application of the software, as we wanted to organize our students into groups based on these 14 statements. Before running the cluster analysis, it is necessary to examine the conditions of the analysis. There was no need to standardize the data, as our variables were measured on a five-point metric scale, and no flagrant elements were detected. The correlation between the variables was not too high either, so clustering was made possible. Since our variables are measured on a metric scale, two observation units can be considered similar, when the distance between them is small, and they are the same if the distance between them equals to zero. The Euclidean distance was used to measure the distance. The next step of the cluster analysis is to select the cluster method to be applied. There are two methods of clustering. We can differentiate the hierarchical and non-hierarchical cluster formation. Decision about which method is more appropriate is not an easy task. According to professional recommendation, it is advisable to use the methods together. The ideal number of clusters was determined by using the Ward-technique as a hierarchical method.

To determine the number of clusters, we examined the aggregation algorithm and the dendogram, based on which both the two- and three-cluster solutions required further examination. The three-cluster and two-cluster solutions resulted in groups of almost the same homogeneity, but in the case of the two-cluster solution the standard deviation of our first cluster improved, so finally decided on two-cluster solution. 66% of the students were classified to Cluster 1, while 34% were classified to Cluster 2. The clusters were named and characterized based on the answers of respondents provided for statements about playful learning.

The first cluster is formed by 156 students, who do not really enjoy the opportunity of competition provided by game. The reward is not really motivating for them, and they get angry easily, when they cannot solve the task. There negative and positive emotions during the game are not outrageous either. Based on the values presented in the table above, this gorup enjoyed the application of simulation software less, the game rather brought negative attitudes to the surface, so this group is called the „uninterested negatives". The teacher has a key role to play raising the students' awareness on playful learning, motivating them to compete, and applying tools to raise interest of the students in playful learning.

Cluster 2 is formed by a smaller group of students. There are 80 students in the cluster, which forms 34% of the sample. They enjoy competition, the opportunity to integrate their knowledge gained by studying different subjects, and they want to prove their

abilities. They will not get angry if cannot solve tasks as well as the tasks to be solved do not generate negative feelings. It is benefiting to focus the attention of students on competition, reward and new challenges. This cluster is formed by the „competing positives". Statistical testing of average differences is essential. An independent sample t-test was used for testing. After performing the independent sample t-test, we found that the opinion of our two clusters differs significantly for all statements.

Conclusion

The aim of the present research was to map the assessment of the labour market efficiency of the university students in terms of applying playful teaching methods. Our respondents considered their labour market efficiency rather positive, more positivity can be detected among the representatives of Generation Z, while with the older generation (Y) rather the female respondents, in the case of younger generation (Z) rather the male respondents assessed their labour market position positive. As a further significant experience with the software we can summarize that self-assesment of students regarding the skills addressed has significantly improved, which means that simulation softwares fulfill the expectations in the education system, since they can improve the initiative and the self-confidence of the students. The most important conclusions of our cluster analysis is that it is more difficult for the older generation respondents to open to technological challenges. They were more sceptical about application of the software in the education process, so the role of the teacher is to motivate them to accept the new methods of teaching. In contrast, the representatives of younger generation are open to new methods applied in the education process, it is worth to put emphasis on competition, which can be defined as a strong labour market competence. Based on the obtained research results, we can assume that the novel methods in education play an essential role in the Slovak education system, as they result in strengthening labour market competencies among the members of young generation.

Acknowledgements

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Distant learning as a way to meet challenges: teaching English for medical students

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Abstract
In 2020 the world encountered a new virus. Nobody could predict it but it happened. The boundaries between countries were closed, people were obliged to stay at home, schools and universities were shut and the education was transferred online. We have to admit that not all educational institutions were ready to switch to the online format of teaching in such a short period. However, in conditions when there are no possibilities for face-to-face teaching educators are forced to find the most efficient ways of teaching English. In this paper, the authors aim to investigate online resources able to compensate for the lack of face-to-face communication. While doing research critical analysis of existing literature and generalisation of teaching experience were used. The findings revealed that even in distant learning particular resources can recompense for the absence of offline learning.
Keywords: online teaching, the English language, medicine, internet resources

Introduction

The contemporary world has faced the necessity to study online due to several factors such as globalisation, human migration, information transformation in society, increased competition in the economy, the role of information communication technologies (Avota, 2018), and, particularly, pandemic. The latter was a real challenge for university teachers even for those who deliver blended courses. Teaching and learning English require teacher-student and student-student communication in order to be successful. But in the case of distant learning face-to-face communication disappears although teaching all language skills (reading, writing, listening, and speaking) remains. Such a case entails a quick modification of teaching methods, approaches, and means while the content of the course should be fixed corresponding to the Federal State Standards of Higher Education. This transformation touches upon all educational programmes but the focus of the given article is directed at medical students. Thus, the aim of the research is to elaborate the available internet resources appropriate for the English for Medical Purposes course (EMP) and define the most effective ones to replace teacher-student or student-student face-to-face communication. To achieve the goal several objectives are to be realised: a) to scrutinise the latest Federal State Standards of Higher Education, b) to study existing courses of English for Medical Purposes, c) to analyse the available internet resources, and d) to present free internet resources appropriate for distant learning of medical students. Very often first-year students do not know enough about resources that can help them facilitate learning English and they cannot choose resources apposite for their skills and needs. We hypothesise it is possible to choose a range of internet resources that will replace face-to-face communication as much as possible. The significance of the research is to show the possibilities of distant learning for medical students to do the course of English efficiently. The course of English is chosen as the English language is considered to be an international language, so-called *lingua franca*, that facilitates further educational

and professional development, international communication, science, academia, and the internet (Abugohar et al., 2019; Džuganová, 2019; Lodhi et al., 2018; Yang et al., 2019).

Materials and methods

In our research we undertook the following steps: studying the Federal State Standards of Higher Education, analysing the aims and content of English for Medical Purposes existing courses, and describing the internet resources apposite for medical students.

To study the official documents and educational programmes we used literature review and applied the method of critical analysis. To find the appropriate medical resources, we surfed the Internet and evaluated the found sources checking them for authorship, intended audience, purpose and currency. In addition, we generalised our own teaching experience.

Discussion

Worldwide English for Medical Purposes is taught from the point of view of real situations and it means that teaching English is focused on a particular context and specific vocabulary. But what is more important teaching Medical English relies on developing communication skills, problem-solving, and decision making (Milosavljevic et al., 2015). Upon completing the course, students are to be able to understand referent texts about the latest developments in their field, practice and improve speaking skills as well as writing ones, write research papers, and participate in student exchange and international scientific events. According to Antić (2015), students should master functional language (standard phrases for talking to patients, consulting, advising, writing emails, etc.), language skills (listening skill, fluency, etc.), and language systems (pronunciation for giving presentations, modal verbs for being polite or expressing compassion, etc.).

The aims and content of EMP vary according to particular professional fields as every sphere (cardiology, dentistry, surgery, etc.) has its specificity. But any course of English for medical students starts with general content. For example, in Japan (Rodis et al., 2014) the core curriculum for Dental English is aimed at responding to the ever-changing needs of the profession and includes two modules, one of which is offered at the pre-dental years and the second one at any other of the dental years. The course embraces basic and advanced terminology (including etymology and principles of terminology) and conversation (including dentist-patient and inter-professional communication). After completing the course, students will be able: a) to produce and perceive basic dental phrases, to comprehend their patients' speech, to inquire their patients about their medical and dental conditions, to explain some dental procedures, to access and use the information for native speakers published on the internet, for example, while looking for and applying for international dental conferences or journals (after the basic course), and b) to understand and respond to technical dental phrases, to create and deliver oral presentations on the specific dental topics, to communicate with health professionals via different forms (after the advanced course).

Another aspect of communication is the interaction with colleagues and professionals. So, students should acquire skills indispensable for meeting, interacting, and collaborating with peers.

To practice applied conversation, role play is one of the means. But it requires some preparatory work from the part of the teacher as a number of case scenarios should be prepared beforehand. Within the framework of distant learning, role-play can be organised within the academic groups or with other groups. Different situations can be

performed such as self-introduction interaction, telephone inquiry, interviewing patients, medical history taking, scheduling patients' visits, chair-side conflict situations, etc.

As the future work supposes the doctor-patient interaction, students should be given specific tasks to be completed in pairs or groups. In such a way they learn to ask and answer questions on various topics, to formulate and express their thoughts, to overcome unease while speaking in public (Rodis et al., 2014). Moreover, such interaction involves casual and formal situations, discussions, facial expressions, gesturing, and sometimes culture studies as well.

In Finland the English syllabus consists of three courses: a) the course aimed at developing confidence, fluency, productive skills, and medical vocabulary, b) the course focused on practical writing skills, and c) the course oriented on multicultural patient interaction (Wallinheimo, Pitkänen, 2016, p.79). Students read materials, watch videos, complete exercises, search for additional information, give presentations, discuss questions, etc. The focus is on interaction because the future profession implies communication and context-specific activity. The course itself is widely based on task-based language teaching as "learning is most effective when it is embedded in authentic tasks that are anchored in everyday contexts" (Hung et al. cited in Wallinheimo, Pitkänen, 2016, p.83). All the materials are provided on Moodle, the electronic learning platform. Usually, the class includes pre-session activities (to read materials, watch videos, prepare presentations, draft writing assignments), in-class activities (to solve task-based problem, report and discuss, analyse and assess, use text, video, audio materials, give peer feedback, write summaries, reviews, etc.), and post-session activities (to participate in forum discussions and chats, fulfill self-reflection, consult with a teacher). For instance, several groups are to elaborate a strategy for eliminating malaria in some remote village. Completing the task, students work with a wide range of materials, divide materials and responsibilities among themselves trying to find a feasible solution to the problem. Finally, they select the best approach after discussing the suggested variants (Wallinheimo, Pitkänen, 2016).

Mungra mentions the syllabus consisting of four modules: 1) acquiring high-frequency vocabulary and discrete linguistic forms, 2) improving reading comprehension strategies, 3) analysing academic genres common to a specific discipline, and 4) completing authentic criterion tasks (Mungra, 2010, p.153). The course is aimed at teaching students to write scientific abstracts in English moving from a particular clinical case to an in-depth understanding of how research works for the specific practical question.

In Pakistan, the course of English for Medical Purposes relies on problem-based and content-based learning (Lodhi et al., 2018). To create real-life situations to practice communication, researchers suggest using information and communication technologies. But there is still place for medical terminology teaching and grammar translation method. As for a lesson format, it has a twofold structure: the first lesson focuses on vocabulary presentation and acquisition whereas the second one – on applying new material in the context that can be filling in hospital forms and papers, using some medical equipment, exploration of treatments, writing emails, discussing medical experience and others (Antić, 2015; Lodhi et al., 2018).

Conceptually the problem-based method can be called "problem-first learning" (Yalcin et al., 2006) as it is based on cases raised by a specific problem with subsequent investigation of underlying concepts and principles. This method has both advantages (enhancing understanding of the matter, improving collaboration between disciplines, increasing the knowledge retention and motivation of both students and teachers) and disadvantages (excessive demands on staff time, set-up and maintenance costs, increased

stress for both students and staff) (Yalcin et al., 2006). But in the situation of distant learning problem-based method is one of the options to be used via such communication platforms as Microsoft Teams or Zoom. Working in small groups activates some psycho-therapeutic principles (listening and tolerating hostility), promotes democratic process when group members work together, determine the rules, take initiative, share knowledge, and show mutual respect.

One of the options of the problem-based method is medical case studies (Antić, 2015). In medicine, it is a central diagnostic method as it aims at a patient and his problem. In the framework of EMP, case study allows learners to revise grammar, ask and answer questions, improve word formation, practice communication skills, prepare presentations, write research papers, develop team-working skills, and so on.

Although many researchers insist on enhancing communicative skills there is still an opinion that two main skills of speaking are fluency and accuracy (Abugohar et al., p.212). They should not be neglected either by teachers or students.

Writing is a part of the job that is why writing assignments should be paid special attention to. Researchers (Lum et al, 2018, p.9) distinguish thirteen writing genres in medical studies serving two purposes: a) enhancing reflective thinking (for example, self and peer evaluations) and b) essay/report writing (reports, annotated bibliographies, research proposals, field notes, etc.). These genres have three levels of difficulty: a) care plans and portfolios, b) discharge summaries and dissertation proposals, and c) argumentative essays and dissertations. Although earlier 29 types were found in medical schools in the United States, the key genres are considered to be patient's history, physical examination reports, progress reports, discharge summaries, clinical or laboratory research, and grant proposals. Thus, medical writing takes a significant place in EMP.

The stages to develop and enhance academic writing skills can be as follows (Mungra, 2010, p.154): a) read a clinical case with focus on lexis, form, and academic register, b) learn how to deal with a patient to get clinically relevant information, formulate clinical questions about possible therapeutic options, and interrogate a medical database, c) find research publications and research abstracts corresponding to the clinical case in databases and online libraries, d) analyse the academic publication to identify the logic of an author following the IMRaD format, e) highlight and structure characteristics of various research designs, f) consider a series of abstracts to understand different abstracts' types and varied methodological research designs, g) to assess the text of the article for linguistic features such as academic register, syntax and semantics, reader-writer interaction, lexico-grammatical choices and others, h) read an abstract with a removed method section, reconstruct this section relying on the rest of the abstract and write this missing section.

Listening comprehension is especially important for medical students as their future job presupposes understanding patients' complaints and descriptions of their health states or results of laboratory tests communicated via telephone as well as participating in international conferences (Džuganová, 2019). According to B. Džuganová (Džuganová, 2019), videos with captions are one of the most appropriate possibilities to train listening comprehension as they combine video, sound, and text. Captioned professional medical videos give students the possibility to perceive authentic medical language and authentic situations along with improving language proficiency. The didactic work with videos (the length of which is from two to five minutes) consists of four activities: Lead-in, Reading comprehensions, Watching a video, and Conversation.

Researchers from Japan (Rodis et al., 2014) assert that special attention should be paid to teaching terminology. Students should focus on the overall meaning of the term, learn it in context, and be ready to rephrase their statements. Term pronunciation is also important and can be improved with the use of pronunciation guides, audio/video clips, and slideshow presentations. This opinion is supported by the Taiwanese researcher who claims that "If a person does not understand grammar, he may be able to express a little thought in words, but if there is no word, no meaning can be expressed" (Liu, 2019, p.1187) and suggests using a corpus in medical English vocabulary teaching. As there are numerous sub-types of the corpus (for instance, nursing English corpus, neurosurgery English corpus, abstract corpus of medical papers, etc.) they can be used in various professional medical spheres to meet the needs and requirements of a particular educational programme. Corpus-based teaching allows building a medical terminology frequency table apposite for the specific profile and consists of four levels: reading and writing, identifying meaning, understanding in a specific context, and using in different communicative situations (Liu, 2019).

So, there is a variety of syllabuses and methods of teaching medical English offered by researchers. We should choose those that meet the challenges in current situation.

Results

The system of Russian higher education is determined by the Federal State Standards of Higher Education. According to the standards, a student upon graduation should possess a number of competences with regard to English or another foreign language. Four most popular medical programmes are chosen for our research. They are General Medicine, Paediatrics, Dentistry, and Pharmacy. Future pharmacists have to develop Universal Communication Competence which means to be able to implement modern communicative technologies in foreign languages in academic and professional interaction. As for General Medicine, Paediatrics, and Dentistry programmes, new Federal State Standards of Higher Education are currently presented for discussion (Portal…, 2020). Along with these documents, all the students form Universal Communication Competence and must be able to realise oral and written business communication in Russian and foreign languages. In addition to this competence future dentists should also form General Professional Competence which presupposes readiness for oral and written communication in Russian and foreign languages to solve professional problems.

To illustrate how these standards are realised, we analysed various syllabuses of English for Medical Purposes. At Northern State Medical University (Arkhangelsk, Russia), for example, students of Dentistry, General Medicine and Paediatrics programmes are taught Foreign Language in the first semester. The aim of this discipline is to acquire the basics of oral and written forms of communication necessary for professional development and their use as a means of communication. In the second semester, future doctors and pediatricians study Basics of Professional Activity in a Foreign Language. This discipline aims at building up the vocabulary for professional sphere and developing skills for occupational activity and self-development. As for future dentists, they are offered an elective course connected with the translation of medical texts to master skills in understanding written sources. Students of the Pharmacy programme learn English for three semesters trying to obtain oral and written forms of communication to use them as a means of communication and self-development.

In Northern State Medical University, distant learning is realised via Moodle (Modular Object-Oriented Dynamic Learning Environment). The English lecturers used to employ it for blended learning but at the beginning of the pandemic, it became the first online

platform to continue the process of education. Moodle contains a variety of activities and resources which can enrich and facilitate the learning process. On the first page of the course, there is all necessary information such as the title, annotation, contents, the name of the lecturer(s), news forum, and literature. Topics are grouped into sections combining theoretical and practical materials. Such an organisation of the material turns out to be very convenient as a student can clearly see all the work ahead in one place.

The core course content is concentrated in such sections as the Lesson module, the Assignment activity, and the Quiz. The Lesson module is organised by an alternation of theoretical material with choice questions checking the comprehension. Providing a student answer is correct, s/he goes to the next page of the lesson, if not, stays on the same page and is advised to reread the information. The Assignment activity allows giving tasks that students submit for the teacher's assessment. The fulfilled tasks can be done in different formats, typed into Moodle, or uploaded in files. It is also possible to record the task in audio or video files for the lecturer to listen and see the learner. There is a possibility for a teacher to set deadlines, which motivates the students to do everything in time. The Quiz section enables the lecturer to create a great number of various types of tests. Among them, there are Multiple Choice, True/False, Missing Word, Matching, Short Answer, Drag and Drop into Text, Gap Fill, and others. The questions of the tests are kept in one database, are easily combined, and may be exported or imported to one or another course. The aim of the tests may be educative demonstrating the correct answers and explanations at the end, or control one, providing only the grade.

Moodle presents a set of tools for collaborative work. To train students for peer assessment the lecturer may use Workshop activity. Here the students submit their own works typed into Moodle's editor or uploaded in files of any type and are given some other works for the peer-review. As a rule, beforehand they are provided with a template of assessment and at the end of the activity, the lecturer demonstrates the final score and best examples. This activity helps learners not only understand their language use better but define the strength and weaknesses of their performance.

Medical students have to acquire many specialised words and terms and the Glossary module becomes a valuable tool for the joint work of the participants of the course. The lecturer may start creating the glossary giving students the opportunity to add new words they encounter afterward. Filling unfamiliar words with definitions can encourage learning, better remembering, and using new terms in context.

The Wiki module is essential for students' group work. The whole group or a limited number of people can create and edit a joint project. The students easily develop content just searching for, discussing, and adding the necessary information. Collaborating on one document they learn how to do teamwork.

All the above-mentioned activities have been widely used in blended learning and are of no novelty to the majority of lecturers. But in an unprecedented situation when there is no opportunity to conduct face-to-face teaching, we regard the communicative block of Moodle as of paramount importance. Let us consider those that are used in Northern State Medical University and can at least partially substitute face-to-face communication in one or another way.

The Forum module allows exchanging ideas by posting comments in asynchronous discussion. Usually, students type the questions they want to get an answer for and receive feedback sometime later. The lecturer can facilitate discussion of necessary problems by posting a particular question and asking everybody to express his/her opinion. Such discussions help the lecturer control the level of students' comprehension and find gaps in their knowledge.

The Chat module is vital as it allows a real-time synchronous discussion. Students change text messages and get replies immediately. The Chat is open for discussion in the time of the lesson according to the timetable. Learners can ask their lecturer any questions and receive competent answers. It is also a place where students can quickly distribute tasks, or discuss urgent problems.

The true treasure in Moodle is the BigBlueButton activity module that allows the creation of a virtual meeting room for real-time communication. The lecturer has an opportunity to see all the students and contact them. As a rule, the lecturer explains new topic for 10-15 minutes, providing it with illustrative material (presentations, photographs, films, etc.), and invites students to participate in the discussion through a group chat. The participants of the conference have a choice either to listen or to speak during the session. Web conferences in Moodle greatly enrich the educational process as they make it more interesting and accessible to students.

Besides virtual learning environments, there is a great variety of other internet applications and gadgets to benefit the process of language acquisition.

WhatsApp is an application that can facilitate student-student and teacher-student communication. It is considered to be "an aid of communication and a tool of circulating educational resources and information to students" (Asgari Arani, 2017, p.99). The application has several advantages such as a low cost, the ability to send numerous messages, immediacy, the ability to maintain a dialogue with a large number of people synchronously, the feeling of togetherness, and others. During the research short complementary lessons were sent to the students of the experimental group three times a week, though control group students had traditional classes. The tasks were aimed at word morphology and terminology, paraphrasing and sentence writing, oral presentation issues like note-taking and listening tactics. The survey showed the students from the former group were more enthusiastic and learned more than their peers from the conventional group. Moreover, the experimental group students managed to cope with class stress, strengthen self-confidence, and devote class time to more complicated points.

Researchers from Finland are proponents of iPads ensuring access to the web, email, books, medical videos, and computer games that can be used for studying medicine practically everywhere (Wallinheimo, Pitkänen, 2016, p.78). Students use iPads for consulting a dictionary, watching videos, listening, reading electronic newspapers, magazines and journals, communicating in social media, using language apps, storing course materials, scheduling, preparing and presenting data and presentations, etc. Whatever device students use there are audio and video resources with a medical focus that can be accessed anytime, for example, TEDMED – http://www.tedmed.com/ and MEDtube – https:// medtube.net.

Not only video services are used by medical students. Social media (YouTube, Facebook, and Twitter being the most frequently used) have become an important resource for medical communities that can teach, engage, connect and provide accurate and credible health information (Sutherland, Jalali, 2017). Moreover, medical society can disseminate conference announcements and content via social media making innovations and discoveries available for those who are interested in the topic.

Another online resource available for everyone having access to the internet is Wikipedia. Quite often educators are rather skeptical about the use of Wikipedia as an information source in the educational process as there is no strict editorial review but different levels of the expertise of the contributors. Studies show that Wikipedia is widely used by undergraduate medical students, junior physicians, and practitioners (Kräenbring et al., 2014). Meanwhile, the researchers compared the accuracy and

completeness of drug information in English language Wikipedia and standard textbooks of pharmacology (Kräenbring et al., 2014). The results obtained (100 drugs analysed from the list of 300 curricular drugs) showed few factual errors and high practicality of curricular drug information for undergraduate teaching. Thus, Wikipedia as well as, for example, the online database Medscape drug reference (https://reference.medscape.com/drugs) are an accurate and informative source of drug information for undergraduate medical students who can not only get information there but participate in editing.

The examples of eLearning resources for neurosurgical training (Stienen et al., 2016) are eBrain, AIIMS NETS, and SCI eLearning. eBrain is a project available for students and educators worldwide. It includes over 650 interactive lessons in 25 modules incorporating webinars, virtual case reports, assessments, learning paths, and bibliographies in the form of text, images, video, and audio content. AIIMS NETS is a free of charge web-based resource that provides virtual education material in the form of videos, webinars, and tele-education material in the spheres of anatomy, pharmacology, pathology, radiology, neurology, and surgical techniques. SCI eLearning is a web-based resource containing training materials for physicians, nurses, physiotherapists, and social workers. The resource provides topical webinars and offers references for further reading.

Slideshow presentations can be widely used for group and individual work as they can ensure better understanding and remembering new vocabulary, construction, or topic. Added subtitles in English or interpretation/translation of some terms will clarify the content. The use of model cast photos or 3D modeling will enhance the learner's cognitive learning due to visual input (Rodis et al., 2014).

For mastering vocabulary, it is crucial not only to remember a new term but also to use it further in oral or written form. Innerbody Research site (https://www.innerbody.com) is a health resource written by specialists in Medicine and reviewed by medical experts. Students can visualise human anatomy systems and read the information about them practicing acquired terms.

Free Anatomy Quiz (https://www.free-anatomy-quiz.com) is one more website for future doctors. It aims to help students of health-related disciplines learn and practise Anatomy, Physiology, and Therapy. The resource offers a great number of quizzes on these topics. Medical English consists of terms derived from Greek and Latin, so there are also quizzes on common roots, suffixes, and prefixes. An advantage of this website is the rubric with short articles for reading with questions to check comprehension. Besides, teachers can find images, crosswords, and worksheets possible for printing out and using as handouts.

As for delivery, teaching methods include face-to-face learning or blended learning. In our research, we focus on the blended learning with a special emphasis on the technologies and resources of the distant learning that can be called open studies, e-studies, online learning, and virtual studies (Avota, 2018). Undoubtedly distant learning has some factors challenging its use (for instance, access to online resources, information literacy of a teacher and students, internet connection, etc.) (Rodis et al., 2014), availability of a computer, tablet, or smartphone for some social groups, fatigue from screen staring, presence of constant motivation and self-control, and privacy issue (as patient's photos or videos can be used) (Stienen et al., 2016). But the advantages of distant learning in some circumstances can outweigh the disadvantages: a) content can be delivered via computer, smartphone, text, audio, video or graphic files, numerous online databases and websites, b) distant learning can be self-paced or teacher-led, c) it can teach

and monitor or control, d) content can be available for students during the whole semester or set for a due deadline, e) print-outs of upcoming classes can be available for students in advance for their convenience (Rodis et al., 2014), f) it can train all language skills namely reading, writing, listening and speaking, g) resources can be chosen according to the language proficiency of a particular student, and others.

Conclusion

To sum up, we have found that contemporary information and communication technologies offer a wide range of resources and software easing the educational process. We claim online learning cannot replace lecturers completely. Still, there are tools and programmes able to facilitate teaching and learning English in lockdown measures. We propose to use one virtual educational platform (Moodle) and complement it with the necessary additions because together they involve all language activities, and allow competent communication. As a rule, internet programmes, gadgets, applications are familiar to students and do not put an additional strain on them. Synchronous and asynchronous formats make it possible for learners to work in groups and individually which is similar to class (offline) learning.

We hope the study will be a useful aid for teachers of English from medical institutions. To further our research we plan to create a new syllabus of English for Medical Purposes that meets the requirements of the time. One more future perspective to be researched is mLearning (mobile learning) mediated by a compact digital portable device that is always present at his owner. This research is very promising as the number of holders of such gadgets is constantly growing.

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Teaching degree students´ experience of teaching practice

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Abstract
The study is focussed on perception of teaching practices by pre-service teachers in preschool and primary education university programmes. Further, the study analysed the reality shock that occurred in these students during teaching practice. The sample consisted of 41 students in preschool education programmes, while 54 students followed the primary-level education programme. The data collection methods were student portfolios and student diaries from teaching practice. In the portfolios it was possible to analyse the activities, opinions, attitudes and products of student practice. Diaries reported students' feelings and everyday experience in the schools. Qualitative content analysis was used to analyse the data. Two significant findings were obtained, i.e., supervising teachers' frequent unprofessional behaviour towards student teachers, and the somatic and emotional exhaustion of students.

Key words: professional identity, starting identity, student preparation, reflective portfolio, student diary, starting profession, teaching practice, students' experience of practice

1 Introduction

The objective of this study is to inform readers of an approach to analysing the professional preparation of future teachers at one non-education faculty in the Czech Republic. This paper does not aim to support the large number of studies which demonstrate the positive aspects of teaching practice implementation. The authors are aware of the strength of these arguments and are also convinced of the importance of teaching practice in the context of preparing future teachers. And because practice has continued to improve and has enabled the gradual implementation of a path towards professional identity, it is beneficial to also note situations experienced by current students – future preschool and elementary school teachers – which are not commonly discussed in studies of a similar nature. The objective of the submitted work is therefore merely to draw attention to **problematic aspects of teaching practice** and the **need to reflect students' experiences.**

In the Czech Republic, teaching degree curricula are structured so that teaching practice holds a precise weight in terms of numbers of credits attained. In general, practice is divided up into observational, continuous and intensive practice. Observational practice is done to get acquainted with the school environment, as well as classes or groups. Continuous practice is undertaken over the course of the entire second and third year of non-graduate study and is linked to students' first endeavours at producing their own outputs. Intensive practice occurs in the final year of studies and lasts from four to six weeks. Our research was mainly focused on continuous practice. Within Czech university curricula, practice is implemented within so-called "faculty schools", which have signed an agreement with the particular university in this regard.

We can understand experience as an internal processing of perceived situations and events, especially with an emotional dimension. It is highly individual, subjective and gives one meaning and significance. Czech differentiates between two types of experience: *prožívaní* which is described above, and *zkušenost*, which does not involve the emotional

aspect described above. Phenomenology utilises the concept of "lived experience" (Bunnin, 2004*; Lindseth, & Norberg, 2004)* in the former context. This involves a person subjecting perceived situations and events to subjective interpretation. This lived experience can produce a wide range of emotions – from very pleasant to markedly unpleasant. In this study, as mentioned above, we are focusing on the lived experience which has aroused unpleasant feelings in students undertaking teaching practice.

Many academic papers have been written on the subject of teaching practice within Czech discourse (e.g. Spilková, Tomková, Mazáčová, Kargerová et al., 2015, Janík, 2002). The starting point for the support of professional identity, or its initial phases, i.e. the starting identity for future teachers, is continuous searching, co-operation between participating academic workers and teachers from practice. The core of an approach to professional identity involves the conscious reflection of developing and subjective concepts of teaching, concepts of pupils and self-conception (Mareš et al., 1996). According to Spilková (2004), the professional identity of a future teacher has three basic phases: a starting identity, a transformed identity, and then the resulting professional identity. Pedagogical works of recent years have spoken of how students and also newly-qualified teachers adopt their professional identity, how it is formed and what limits it, or nurtures it (Dicke, 2015, Kim, & Cho, 2012, Švaříček, 2011, Wiegerová, & Gavora, 2014).

The construction of a professional identity is a life-long, continuous process. In childhood, in the first phase, it can manifest itself in one's preconceptions of a teacher (Gavora, 2002). A teacher's professional identity is influenced and shaped by their social environment. Future teachers adopt standards and values, and socialise interactively. They are influenced by external stimuli within the school as well as their own internal factors, personal identity, characteristics and skills. They are also constructed on the basis of their own experiences and abilities. The core condition for developing a professional identity is self-knowledge, self-identification, and so also how an individual experiences a situation they find themselves in, and also how this influences them. The development of a professional identity is also influenced by society's approach to the profession of teaching. The changing system of education and teaching, and new European curricular documents are transforming the function and objectives of education policy within European countries. For preschool and elementary schools, professional security is important, creating the foundations for a teacher's professional growth (Spilková, 2010). This already manifests itself during study. Professional security is supported when the personal experiences of the student over the course of teaching practice are reflected in an appropriate manner.

2 Research survey methodology

The *research objective* was to ascertain what students of teaching for preschool and students of teaching at primary level experience personally during their (continuous) practice, and describe how the situation supports their starting identity. A secondary objective was also to monitor the short-term occurrence of reality shock following students beginning practice (described, for example by Dicke et al., 2015, and Stokking et al., 2003).

The *research sample* comprised a total of 95 student participants. Of these, 54 were students of teaching for primary level (including one man) in the second and third year of their studies, and 41 participants were studying teaching for preschool in their second and third years. The students of teaching for preschool had completed their continuous and intensive teaching practice at preschools, during which they undertook educational activities in classes which were heterogeneous under the management of a faculty

teacher. Students of primary level teaching had completed their continuous practice in Year 1, Year 2 and Year 3 of elementary school. *Data collection* was undertaken in two phases. The first was done prior to students beginning their teaching practice. This mainly involved ascertaining their ideas of practice (in a diary), and also mapping their preparation for practice in a professional portfolio. The second phase took place during the period of their teaching practice.

Students' teaching practice was done in two faculty preschools and two faculty elementary schools in 2016 - 2018. Over the period of their studies, all participants completed a number of types of teaching practice from the first year of their studies at university (see Wiegerová, 2015). This study analyses only the experiences during the period of the students' continuous practice. Research participants grew within a specific academic environment, but also within the employment environment represented by the selected preschools and elementary schools. Although at the start of research the objective had been merely to follow what situations the students were experiencing and how they dealt with these personally, over the course of the research (in the context of the tradition of qualitative design), the need to expand the field of research in order also to capture how participants perceive the operation of preschool or elementary schools including as a potential employers became apparent.

Research methods. The main data collection methods were *student portfolios* and *student diaries* from teaching practice. The portfolios could be used to monitor the set of activities, opinions, positions and products of student activities. The diaries contained records of feelings, the experience of every day in the preschool or elementary school, and open descriptions of situations experienced. The research did not aim to specifically determine differences between preschool and elementary schools, although these institutes are clearly not the same. It was not important for student experiences whether they were in a preschool or elementary school. What was important was that it was a school in general. Students were instructed to write regularly in their diaries, if possible every day. The size of entries was not limited.

The basis for *data analysis* in processing the portfolios and diaries was recursive reading. During repeated reading of passages from the portfolios and diaries, it was possible to gradually penetrate the thoughts and feelings of research participants. Sensitive areas were identified during the reading and analysis of portfolios and diaries which conveyed emotionally-charged information from the participant. These segments were labelled and coded. These segments varied in length, though they were never just one word. The codes were systemised and grouped according to meaning. Putting codes into groups produced categories which were able to integrate the codes of that particular group within themselves. Following the production of categories, codes were re-evaluated, checked and returned to the categories, meaning there was constant comparison. Thus in processing the qualitative data, an induction principle was applied. The advantage of this principle is that it allows for the production of potentially new perspectives on the investigated phenomenon or phenomena. This gradually led to the production of meaning categories, and relationships between these were revealed. A triangulation of approach was secured with so-called collegial coding (Wiegerová, 2016), meaning that it wasn't just the researchers doing the coding, but also research assistants – i.e. students as student scientific workforce.

The testimony of research participants are indicated in italics within the text. The letters S/Z designate the student within the particular study group, while O or Q indicates the type of school, and the number of the number of the student used in the data processing.

3 Interpreting research findings

Pedagogical research, as has already been noted, has collected extensive data on the teaching practice of future teachers. However, less research is focused on students' resilience and students own experiences of teaching practice, and there are not many studies investigating this to the present day. Neither are the experience of contacts with students from the perspective of faculty teachers and vice-versa analysed.

The findings the authors have ascertained through data interpretation are far from complete, and they cannot bring answers to all gaps in the preparation of future teachers. The presented research findings, however, represent a contribution towards discussion on improving teaching practice at universities.

3. 1 How it will turn out, or worries about the faculty teacher and parents

Theoretical and research studies have looked at to what extent students experience social, cultural and educational problems (Clinciu, 2013, pp. 718-722), how universities respond to students' needs (Feld et al. 2011, pp. 44-92) and what specific steps lead to their adaptation (Chang et al., 2007, pp. 135-144). Adaptation to school conditions is a subject of many studies.

Students starting out within faculty school environments feel worries. The new environment may be a source of various situations which may cause difficulties. Adaptation, or the teaching degree students' ability to adapt to the school environment, is an important factor which has an impact on the student's starting identity within the profession. *Is school the place where I want to be? Will I be capable of playing my employee role in school? Can I manage it?* These are the questions which students posit before teaching practice, and also after completing this practice. The more difficult the conditions in the environment they end up in, the greater the justification for regulating the adaptation process. Students were not in their selected preschool and elementary schools for the first time. They knew the schools, because all their previous practices had been spent at these institutions. For all types of practice, the faculty only co-operates with selected faculty schools. Nevertheless, students' first day doing teaching practice was still accompanied by various emotions.

> *I was worried about going to preschool. I didn't know how the teacher would accept me, and if we would "click". I knew her, but you never know... (SQ12)*
> *I was most worried about the parents, or rather I was afraid of meeting them. (SO4)*

From the responses given, it is clear that students were mainly worried about co-operating with the *faculty teacher, and also with parents*. These possible areas of conflict are predictable. These fears can be dealt with during the course of preparations for practice at the university, or intervention programmes can be used to support students' adaptability to their new conditions. Worries about meeting parents and faculty teachers were seen both for preschool and primary level schools and were the most mentioned amongst research participants. In this regard, one could boost subjects focused on teachers' professional communication with adults, or with institutions which students shall encounter in their employment, within teaching degree subjects, although faculties perceive these problems as vicarious, i.e., problems which are not part of the core of preparation for teachers. Although curricula do contain courses looking at co-operation with the family, it appears that students also need management in actual communication with parents over the course of their teaching practice. Communication with other

institutions (such as various centres of support) is represented within teaching curricula somewhat symbolically.

As stated above, students' worries about their teaching practice were in regard to communication with parents and faculty teachers, and it was clear from their responses that students were also worried about their own failures, and shortcomings in their didactic skills.

When I started, I thought that planning one teaching period would not be a problem, but I'm very surprised by the troubles it gives me. (Z2)

When the course of my activities were not even close to my ideas, my feelings from my first teaching experience were not very positive.(Z31)

The first experience of teaching practice is a source of students' own reflection, and this can be motivating for further experiences (see also Korthagen et al., 2011), but where the student is not given adequate assistance, it can also be a source of unpleasant feelings which may give rise to further problems.

Although over the course of their study, students have many opportunities to work on their knowledge and deepen their didactic skills, it has been shown that one's first contacts during teaching practice come with worries of this nature, and so greater attention should also be focused on them.

3. 2 Seeking partnership

As already noted in the previous subchapter, students were mainly worried about co-operation with faculty teachers. To some extent, this worry is understandable, and can be transformed into a positive reaction in just a few moments, or instead into finding that the faculty teacher does not do his or her work in line with the student's expectations. This finding was stated by a third of research participants, especially those in preschools. Their responses include a clear seeking for mutual sharing and partnership between student and teacher. Students expect that faculty teachers will always explain their responses calmly. Reality then surprises them.

A girl arrives at preschool crying in the morning. I put her on my lap and we play with a doll. The teacher then berated me saying that if she did that she wouldn't manage it and I shouldn't get children accustomed to it. (SO13)

According to students' subjective perception, the position of faculty teacher is incredibly important. It is shown that it is even more important than the position of the academics who are responsible for teaching practice in the study programmes, and who are meant to provide a certain supervision over teaching practice by the universities.

What I learnt at the faculty was merely theoretical. I need my faculty teacher to understand what is happening in the class. (ZQ39)

Over the course of their practice, students found themselves in situations they assessed as educationally "unclear". These were situations where they were unsure whether they were dealing with the children correctly, and so they wanted to clarify the personal position which they took at that moment. They sought help from the faculty teacher.

I have to go to preschool with a lot of patience, because the girls don't behave at all, they don't follow the rules and they're already 5 years old. I feel that they're excused for a lot of things. I asked the teacher about it, and she told me I shouldn't worry about the parents but rather the essence of a teacher's job is to ensure parents especially are satisfied. (SQ4)

Many studies have noted problems in children's behaviour, but in this regard the student sought support in academic literature and subsequently wanted to discuss this with the faculty teacher, because she did not understand why the children were behaving in a particular way. It did not fall within their knowledge structures, and so she sought arguments and explanations. She did not get any.

In their responses, students stated that they did not often meet parents. There was an obvious attempt by teachers at leaving students out of this communication. This phenomenon was clear both within preschools and within primary level elementary schools. One can only make educational guesses as to why that was the case. Perhaps the leimotif was teachers' protective instinct, in which they subconsciously wanted to protect their "young colleague" from unpleasantness. On the one hand, it is a good strategy for the school, but on the other hand students also have to try out communication with adults, especially where they spend all day looking after their children. From what they were able to observe, students during teaching practice said that they thought parents were too demanding. They even noted in preschools claims that parents wanted their children to also be educated in preschool. This is somewhat confirmed by Opravilová (2013), who says that in recent years parents increasingly take a more rational and realistic approach to the education of preschool-age children. This is because children are seen as part of the presentation of the family status. Educational activities are offered by preschools in line with this. Students understood this challenge as requiring them to prepare interesting and demanding educational activities.

There were plenty of occasions where teachers said that parents are now very important. Faculty teachers often made this statement even in situations which the students assessed as interesting for explaining to parents. As was shown, however, teachers are also "afraid of parents", and their responses to the students had connotations of warnings in order not to create unnecessary conflict.

We were playing with beans, and suddenly I saw a worm. All I could think of was to show it to the children and explain what it was doing there. But then I got told off that I should hope they don't say it at home, because then there'd be hell. Parents are really demanding here, but I have the feeling that it's only because the teachers aren't able to explain to them properly what they are doing. (SQ10)

As is clear from the example, the student managed her approach well, but the faculty teacher, apparently out of her fear of parents' reactions, was unable to objectively assess her endeavour. Students often stated they had the *"feeling that they were more worried about what parents would say than what the children do."* All children have a natural ability to learn and become familiar with new things, but they often become mere means of power pressures and fashion trends. Only a teacher who is sure of his or her professional competence can contend with this stress. It would appear that this insecurity is the source of the problems which teachers and parents have, and in our case this has also influenced the student, who felt that she "knows more than the teacher".

Sometimes students are unable to grasp the situation which has arisen from teachers' responses, and experience unnecessary swings in emotion.

I wake up in the morning tired again, but looking forward to the children. We did well yesterday. As soon as I arrive at school I'm angry. We made a book with the kids yesterday and it had been on display. It's not there today. I asked the teacher about it and got nothing. Simply, it wasn't there. I don't understand. The kids were crying. They were sad, and so was I. (SO3)

The student came up with the idea of a display, and her activity was not positively received by teachers. This led to disappointment. It is notable that students in preschools did not describe problems with the didactic grasp of educational content, or with preparations for their work. One can thus deduce that didactic preparation is not a problem for students of teaching for preschools.

The situation was different for elementary schools, where the students spoke more about didactic difficulties, such as in producing their own preparation for particular teaching periods. It is naturally a challenge for the faculty to ensure didactic reflections are focused on in preparing teachers for primary level elementary schools, which (as research has demonstrated) create a solid basis for managing even unusual professional situations.

For a teaching education, it is important that students feel a mutual partnership between institutions, which is then positively transferred to the student during practice. The challenge remains of finding specific faculty teachers who can be a positive example for students. It is clear that even the best co-operation between organisations cannot guarantee how the specific situations for specific teachers in contact with specific students will be reflected. This, however, is important and an important path towards supporting a starting identity, because when seeking responses to the questions, *"Do I want to stay here?", "Do I want to be a teacher?"*, faculty teachers can provide great assistance. It has been shown that the personal experience of the faculty teacher and his or her personality characteristics are also very important, because they are important for students and also motivating are their own observations, recollections and the presented experience of the faculty teacher, which are expressed outside educational content and are a component of students' social adaptation to the conditions of work in school.

3. 3 Response to children's problems with adaptation

Adaptation to a new environment is a problem which not only children have to deal with, but also their parents. Even within the context of Czech academic discourse, this is an issue which has been subject to fairly broad research (Opravilová, 2013, Majerčíková, & Syslová, 2014, Šulová, 2004). A child's transfer to preschool and then to elementary school is one of the major areas in the relationship between family – preschool and elementary school. Co-operation between these institutions is fundamental, including in terms of satisfying children's needs. Children's adaptation to the school environment is a long-term matter and is linked to certain risks at the start of attendance. A child's entry to preschool or elementary school is often influenced by disproportionate motivations in both a positive and negative sense – the idealisation of the preschool or elementary school environment, or in contrast threats from parents. A child's parents may be a source of a negative picture of the school environment through the child receiving information such as: "Just you wait for school, they'll teach you there!" (Šulová, 2004). An important element influencing a child's adaptation is determining the period and frequency of the child's presence in preschool in line with his or her needs and mental state. An important aspect arising from the family environment is the willingness to accept advice and help from the preschool teacher and make use of activities which the preschool offers to parents for facilitating the child's adaptation. As our research has shown, the child's adaptation, response of the child, parents and teachers, has become an important situation for the students on practice. Their responses refer to the emotional symptoms of the short-term reality shock (such as "I was heartbroken").

New children still miss their mums, they keep on crying and have to be consoled; they are exhausted all morning. The teacher doesn't do much about it and it feels strange to me. (SQ2)
I had a weird morning today. Mareček wouldn't leave his dad. He kept crying and standing at the door. The teacher told me he sometimes stands there all morning. I asked what I should do. The response – nothing. Just leave it. (SQ3)
I woke up with a headache so I hope the kids aren't going to cry so much. (SO7)

The students were also surprised by the children's morning reaction because according to the teachers' assertions, the children should have already been adapted. But every child manages their adaptation differently, and so the actual process takes place at various rates and over various timespans. Parents' behaviour during their child's adaptation is also important. Parents also have to deal with the new situation. They should by supported by the teacher.

There are also problems with children's adaptation upon transfer to the first year of elementary school. We can currently observe a kind of increased preparation for elementary school in preschools, because education is compulsory in the Czech Republic now from 5 years of age. It is also interesting to observe the mutual reactions of teachers at preschool and elementary schools, who appear to seeking excuses for their failures.

I was surprised by the teacher, who kept asking what the kids learnt at preschool since they knew nothing. (Z 43)

Mutual co-operation between preschool and elementary schools is a phenomenon which needs to be focused on more. It would be interesting to map better the reasons which lead to teachers pointing fingers at each other, and which preschools also do towards parents. It is as if they are seeking reasons for emphasising their own importance.

Primary level elementary school teachers also often complain about their colleagues at senior level who tactlessly ask what they taught them at primary level. This study's authors found this to be prevalent when visiting the schools where students' teaching practice occurs. This fact also deserves attention from researchers. It is obvious that even primary-level teachers at elementary schools experience questioning of their professionalism and position at their schools. This may also be a reason for their attitude towards teachers at preschools.

In this regard, the faculty securing practice can play an important role. In the process of professionalization of a future teacher, it is important that they believe in the meaning and importance of their profession. An example of good practice could be seeking bridges between preschool teachers and primary-level teachers at elementary schools, such as through academic debate which could take place at the faculty. This model has been verified at the workplace where the study authors work.

3. 4 Teacher as nurse
Faculties preparing future teachers know that there are situations which they cannot get an active handle on and clarify to students adequately during the course of theoretical preparation. They can provide theoretical foundations, but they cannot demonstrate certain phenomena merely through academic writings. These phenomena include the issue of children's healthcare. Although recently curricula have included subjects reflecting child sickness, students can hardly imagine how such illnesses may impact the teacher's teaching activities. Even at a theoretical level, not enough focus is given to these issues, and perhaps this may be one reason why students coming to their teaching

practice are not equipped with a sufficient range of information which could help them ascertain or explain the particular phenomenon and then to analyse it. When medical issues come up during practice, all teaching activities take a back seat and the teacher has to deal with the acute situation which has occurred. Students have seen this during their practice.

I'm taking the phone. A mum called saying she's leaving Barunka at home because she has diarrhoea, but her husband will bring their second daughter. In half an hour, the second girl also has diarrhoea and one boy has been vomiting. It looks more like a hospital than a preschool here today. I have to chase up parents all day asking them to come and pick up their kids.(SO12)

I really didn't want to get up this morning, but duty calls. First thing, I find out that one girl in the class has nits. SO2)

As can be seen from the responses, real life at school results in situations which even the best university cannot prepare its students for. Even if students study paediatric preparation, first aid and the foundations of child biology during their undergraduate lessons, it appears they would also need to be equipped with practical advice. Injuries are frequent in preschool, and students need to respond appropriately.

A boy I didn't have my eye on fell in the garden. I had to explain what happened to his parents. I managed okay, but it made me sick to the stomach. I had expected help, but I didn't get any.(SQ6)

This student's feelings of personal remorse, also somatically supported (stomach pain) were evidence that the student was suffering and feared for the boy and the reaction of his parents, and in this situation naturally sought support. She expected help, or another strategy from the faculty teacher for her practice.

We are witness at schools when meeting faculty teachers that they do not have time for other work when dealing with children's health problems. Teachers evaluate these issues as parental failure. In this regard, faculties could also play an important role in seeking a suitable space for professional discussion between the parents and faculty teachers, and invite the students to these debates. An example of good practice of how to deal with health issues is the project, Od začátečníka k mentorovi, or From Beginner to Mentor (2014-2016), which was implemented at the workplace where the authors work, and one of whose outcomes was the production of methodical guidance for teachers and students who find themselves with a sick child yet want to continue to undertake teaching activities.

3. 5 Fatigue as a strong experience of students doing practice

The final days of teaching practice provide fascinating and emotionally charged testimony from students. It is clear that the end of teaching practice was the strongest moment, and this is also reflected in the data.

For some students, they experienced short-term reality shock. Reality shock can be manifested in terms of somatics (fatigue, headache), emotions (mood change, disillusion, sadness) or cognition (insecurity, doubting one's way of working). Short-term reality shock can result in work disillusion and the student deciding not to actually become a teacher (Roy & Robichaud, 2016). From analysing diaries, it is clear that short-term reality shock was identified in both somatic and emotional fields..

I spent my final two days at the end of my tether. I had an incredible headache, and I was generally exhausted. (SQ15)

In the somatic field, there were headaches, fatigue and general exhaustion. These manifestations also led to a loss of students' energy and performance quality.

I couldn't handle it psychologically any more, and I was crying even during games. I was so physically and mentally exhausted that I needed to compose myself.
After that, for a while I considered giving up on the preschool teacher profession because it isn't worth it. (SQ11)

In terms of psychology, manifestations such as crying, shouting, anger, nervousness were described. From the testimony of one student, it is clear that her state led her to doubt herself and her own professional identity.

I feel disappointed and sad. I've got a headache, but I'll get through it somehow. (Z4)
For research participants, the diaries became an aid and to some extent also a therapeutic tool. Students stated that they often went back over their entries and sought support in their response to situations they found themselves in.

The diary has helped me. I couldn't rely on the teacher, so at least I got it off my chest. (SO21)
The participants' diaries thus also served as a therapeutic.

4 Conclusion

In implementing their intentions, all students find themselves in situations where they have to take a stance. Through these interactions, they create their own mental construct which puts into context the experience they acquired from what they went through. The insight isn't about reality, but about its importance for the student. On the basis of the teaching practice they experienced, and lived through, the student evaluates their theoretical knowledge and puts it into context. The direct transmission of complete knowledge is impossible. Students create their own meaning for words, ideas and experience on the basis of their actions. This is one reason why teaching practice is of fundamental importance to every student.

In the introduction, we have already declared that this study presents the more extreme testimony of students describing their personal experience, something the authors perceive as an important foundation for influencing the starting identity of the future teacher. Within the research, students' resilience was not monitored, although this can be considered in the next phase of research, and these findings can be used for data comparison.

The research showed that the person who accompanies him or her on the imaginary frontiers of reality, i.e. the **faculty teacher**, is of fundamental importance to the student at his or her practice. Students seek a partner and advisor in the faculty teacher, expecting support from them. They want to discuss academic, practical and administrative matters with them so they can understand the processes taking place within the school. Students want to be in contact with parents, they want to learn how to manage this communication channel and want to get a grasp of different situations through the faculty teacher.

The presented research had some limitations through its focus. Research participants were teaching degree students at only one Moravian university. Only qualitative data was presented, although it does in a sensitive manner point out problematic situations which the student experiences as highly personal. The research results, however, relate only to a specific finding, even though some data and its interpretation may have a broader connotation and overlap. Thus there is potential for further research.

The interim results of the research imply that we should not neglect students' teaching practice and their personal experience of this, which can also influence changes in

teaching-focused programmes. It has been demonstrated, for example, that in schools today attention needs to be paid to various types of child sickness which teaching students are unable to deal with unless they know about them.

Faculty schools should become an integral component of students' lives during the course of their studies, beginning in the first year. Faculty teachers need to be thoroughly prepared for their position of working with students. Here, we can implement and subsequently verify a so-called open school model, in which the university plays the role of co-operating partner. As the participants' testimony makes clear, it is not enough that they are warned of possible problems during their theory lessons at university. It is also essential that they encounter the real environment in which they may be working during the course of their studies, during their professional beginning. It is important that they have the opportunity to get a grasp and an emotional feel for what preschool and elementary schools are as an institution. This will also support their professional identity.

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