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DESIGN THINKING FOR SPECIFIC PURPOSES: COMPARATIVE STUDY OF DESIGN THINKING TECHNIQUE TO ENHANCE EDUCATIONAL PROCESS FOR STUDENTS OF ENGLISH AND TEACHERS OF VARIOUS ACADEMIC FIELDS

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Abstract. *Design thinking is a dynamic approach and mindset employed to explore innovative and creative solutions to a wide range of challenges. At its core, design thinking places significant emphasis on the individual, their emotions and needs. Professionals who embrace design thinking actively seek out issues that impact people and offer appropriate solutions that will benefit users. Consequently, design thinking is an ongoing and iterative process, continuously researching and enhancing a product or service to the user's satisfaction. This study aims to compare how English language and culture in specialized communication students and university teachers of various academic disciplines at the University of Ss. Cyril and Methodius in Trnava and the Faculty of Materials Science and Technology at Trnava, Slovak University of Technology in Bratislava, Slovakia, perceive the application of design thinking in the educational process. Two workshops were conducted to explore the application of design thinking in American literature seminars, with a total of 45 students who took part in the survey. The third workshop focused on enhancing intercultural awareness through online seminars and searching for the most appropriate methods of teaching intercultural communication in the online space. The workshop had a total of 25 students, with 21 participating in the research. A pilot workshop for teachers was organized in May 2023 within the project titled "Support of internal systems for ensuring the quality of higher education at the University of Ss. Cyril and Methodius in Trnava, Slovakia", with 25 university teachers participating (21 of whom took part in the survey). The research results indicate that both students and teachers perceive design thinking as a suitable method for the current educational process. Students identified presentation skills as their biggest challenge, whereas teachers did not face significant issues in this area due to their profession. Conversely, teachers expressed difficulties with digital skills, which were less prevalent among the students. Design thinking offers numerous benefits to students by creating a supportive learning environment. Additionally, for teachers, this method can become a part of their lifelong learning, as innovation relies on their motivation and efforts to teach traditional content differently.*

Key words: *design thinking, generation Z, students of English, teachers, digital identity, x-learning*

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1. INTRODUCTION

The educational process of the 21st century is transforming into an immersive learning experience. The previous strategic framework for European cooperation in education and training, known as ET 2020, played a vital role in fostering collaborative learning in education and training (Council Resolution on a strategic framework for European cooperation in education and training towards the European Education Area and beyond (2021-2030) online) through the establishment of common strategic objectives, shared reference tools and approaches, utilization of evidence and data from relevant European agencies and international organizations, and facilitating the exchange of good practices and peer learning among EU Member States and other stakeholders. Moreover, it effectively supported the implementation of national education and training reforms. An updated strategic framework for European cooperation in education and training seeks to further enhancement of this collaboration while upholding the principle of subsidiarity and recognizing the diversity of national educational systems among Member States. Building upon the accomplishments of previous frameworks, the updated approach strengthens cooperation in several key areas, which includes:

1. **Enhanced Coordination:** fostering greater coordination at both political and operational levels, enabling a more cohesive and harmonized approach to education and training policies across Europe.

2. **Synergies for Social and Economic Growth:** the updated framework promotes better synergies between various policies that contribute to both social and economic growth. This can be achieved by aligning education and training with wider agendas such as the green and digital transitions, ensuring they complement and reinforce each other.

3. **Improved Communication and Dissemination:** recognizing the importance of effective communication, the updated framework prioritizes enhanced dissemination and communication of outputs. This facilitates a wider sharing of knowledge, best practices, and innovative approaches within the education and training community.

4. **Innovation and Future-orientation:** embracing a forward-looking perspective, the updated framework prioritizes support for education and training reforms that are innovative and future-oriented. This approach will enable European cooperation to adapt to emerging challenges and seize new opportunities, including within the context of the European Education Area.

Online and hybrid forms of education and training systems uncovered the need for flexibility and resilience to interruptions in their regular cycles. It demonstrated that educational institutions have the capacity to find alternative ways and contexts to ensure the continuity of teaching and learning processes. Innovations and creativity have become key elements of the 21st century educational process. Prototyping should become an essential skill and process for designing the content of education. Learning prototyping is possible via visual aids and the usage of various media. One of the suitable methods is **Design Thinking** which follows three steps:

1. **Designer finds the objective of the prototype:** based on the design thinking principle, designers identify a problem, which needs to be solved. The role of the prototype is to solve this objective.

2. **Designer defines the scope that the prototype will cover:** the prototype should not be too simple or too complex as it will be improved in further steps, however, it needs to match the proposed scope.

3. Designer decides on the functionality of the prototype: once the designer decides on these factors, they can create the prototype, test it, and improve it.

Plattner, Meinel, and Leiffel (2011) outlined four fundamental principles or rules that form the foundation of the design thinking process. Firstly, the *human rule* emphasizes that design thinking is a user-centred process. Secondly, the *ambiguity rule* suggests that designers must learn to perceive problems from the perspective of the users, embracing uncertainty and complexity. The third principle, the *re-designing rule*, underscores that every design solution is essentially an improvement or adaptation of an existing one. Lastly, the *tangibility rule* advocates for presenting all ideas and potential solutions to users through prototypes, making concepts more tangible and accessible. No successful product or service has ever been launched in its initial prototype form. Prototyping is used as one of the key tools within innovation to get a realistic picture of how an idea might work in practice. It enables failure, learning, and adjusting quickly before putting lots of resources into it.

The potential of design thinking cannot be perceived only in terms of stimulating creative thinking, teamwork, and problem-solving method, but also as a way of developing foreign language competence and improving intercultural communication, which is “linked to cultural intelligence and communication competence” (Dančišinová – Kozárová, 2021, pp. 77-83). The cultivation of communication competence in foreign language teaching is an essential aspect of the educational process. As Michvocíková (2021, p. 11) emphasizes, effective communication lies primarily in the knowledge of all participants engaged in the communicative process. The presented study provides insight into the importance of design thinking for interdisciplinary, problem-based, foreign language, and creativity-developing education with respect to the changes needed in the present-day educational process for both teachers and students.

2. LITERARY REVIEW

Design Thinking is more than just a creative process. Originally, it was developed as an innovation method for products and services at Stanford (Shape the Future with Design Thinking online). However, its current perception extends far beyond that, encompassing a holistic approach and a transformative mindset driving sustainable change in both business and society. In *An Introduction to Design Thinking* Plattner (2010) explains that in the process of design thinking, gaining a deep understanding of the target group is essential for defining the problem and seeking optimal solutions, which will be tested and verified in practice. The design thinking process involves several phases (Figure 1), starting with empathizing with the target group and understanding their needs. Through various methods like conversations and observations, the designers seek to identify the intended users, their requirements, and areas for potential improvement from their perspective. Based on the insights gathered during empathization, the next step is to precisely define a specific problem that the designers will focus on. Often, this problem is something the users may not have initially realized or expressed clearly. Once the problem is defined, the designers move on to the ideation phase, where they generate a wide range of creative solutions. The aim is not to find a definitive, most optimal answer immediately but rather to explore diverse possibilities. The next stage is prototyping, during which the designers develop a simple solution to the identified problem. However, the prototype is not meant to be the final product. Instead, it serves as

a means for users to interact with and experience potential solutions before reaching the ultimate product. The prototype should be kept straightforward, allowing room for improvement and refinement (Horowitz, 2016). Following the prototyping phase is testing, where the prototype is presented directly to the users. This step is crucial as it enables designers to assess whether they are heading in the right direction to solve the problem. Valuable feedback is collected, including what users like about the prototype, its usability, and areas that require enhancement (Horowitz, 2016).

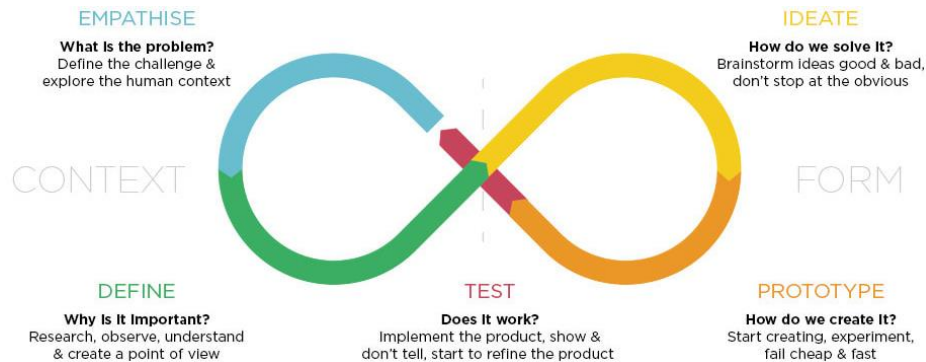


Fig. 1 The process of design thinking (Loizou, 2016)

When applying design thinking principles to the educational process, continuous monitoring of students' needs, identification of new problems, and evaluation of the effectiveness of current solutions become possible. The involvement of students as users allows the teachers (designers) to customize a suitable approach to the educational process, considering the specific needs of the target group. When problems are identified, teachers should maintain openness to creative solutions that foster innovation and improvement in the educational experience. Subsequently, proposed solutions must undergo testing and careful assessment of their impact on the educational system. It is crucial to acknowledge that not all solutions will be universally effective, making it challenging to perfectly adapt educational content to every student. Nevertheless, these principles advocate for ongoing innovation, striving to achieve optimal efficiency and satisfaction for all involved parties. Sándorová (2018) applied the method of design thinking in teaching ESP in the context of creative tourism and the outcome of the course was positive as students improved their communication skills, were more active and enthusiastic compared to traditional teaching methods. Lin, Shadiev, Hwang, and Sheng (2020) applied design thinking in the information technology course and their study has shown that design thinking can improve contemporary students' skills, especially creativity. Glen, Suci, Baughn, and Anson (2015) incorporated design thinking into the business curriculum and their students got accustomed to a more structured learning environment, benefited from the guidance and reached the desired outcome. Rauth, Köppen, Jobst, and Meinel (2010) emphasize that design thinking offers a versatile and approachable framework to assist educators in navigating problems of practice while enhancing their creativity. As creativity is a crucial skill in the 21st century (Mishra – Mehta, 2017; Robinson, 2011), thus design thinking skills have become fundamental literacies essential for fostering creativity in the 21st century (Pendleton-Jullian – Brown,

2015). Nowadays, educators face a transformative shift in their roles. In addition to traditional teaching, they are now embracing new roles such as coaches, resource providers, and designers. In practice, teachers encounter a multitude of diverse challenges when designing their classes, instructional materials, lesson plans, or teaching methodologies. Henriksen, Richardson, and Mehta (2017) conducted a qualitative study on a graduate teaching course that centred on applying design thinking to tackle educational problems of practice in a creative manner. The researchers explored the various themes that emerged from teachers' experiences while learning about and utilizing design thinking skills to address educational challenges. The findings imply that incorporating design thinking skills into their practices may cultivate certain cognitive habits that prove advantageous for teachers in navigating creative problem-solving processes. Teachers are required to adjust their approach according to their students' needs and the unique characteristics of the context in which they conduct their teaching activities. Indeed, teachers continuously encounter design problems, which has led some authors to propose viewing teaching as a design science (Jordan, 2016; Laurillard, 2013; McKenney et al., 2015). However, despite this recognition, teacher training rarely incorporates design education. In general, teachers are not equipped with the appropriate skills to carry out this complex task (Calavia – Blanco – Casas – Dieste, 2023), which inspired the author of this study to organize a design thinking workshop specifically customized for teachers of English language, ESP, CLIL and disciplinary teachers. The author has implemented design thinking into the courses focusing on Anglophone literatures, intercultural communication, as well as creation of projects and their presentation. The positive outcomes of implementing design thinking have been recognized and documented in two notable publications *Design thinking as a "good practice" of x-learning* (Pondelíková, 2022) and *Design thinking as a modern way of teaching intercultural communication* (Pondelíková, 2022). The presented study conducted a comparative analysis to assess the impact of applying design thinking in enhancing the educational experience for students studying English and for pedagogues of various academic disciplines. The findings are presented in the Research Results and Interpretation section.

3. RESEARCH METHODOLOGY

Quantitative research is a crucial methodology employed in various academic disciplines to systematically investigate phenomena using numerical data, offering a structured approach to explore, measure, and comprehend complex phenomena. It plays a pivotal role in contemporary academic studies due to its ability to provide objective and reliable data. By employing statistical techniques, it facilitates the generalization and replication of findings, thus contributing to the accumulation of knowledge within various fields. The use of quantifiable measures enhances the accuracy and precision of research, enabling researchers to test hypotheses, establish causal relationships, and identify patterns or trends. Quantitative research offers several advantages that make it indispensable in academic investigations. Firstly, it enables researchers to analyze large data sets efficiently, making them suitable for studies involving a broad scope or diverse populations. Moreover, the standardized nature of quantitative research ensures that data collection methods can be replicated, allowing for the verification of results and facilitating the advancement of scientific knowledge. Additionally, quantitative research

is conducive to statistical analysis, enabling researchers to quantify relationships, detect correlations, and assess the significance of findings.

While quantitative research offers numerous advantages, it is essential to acknowledge its limitations. Firstly, the reliance on numerical data may oversimplify complex phenomena, potentially overlooking important contextual factors. Additionally, quantitative research often requires large sample sizes, which can be time-consuming to collect and process. Furthermore, it may be challenging to capture the full richness of human experience or subjective perspectives solely through quantitative measures.

Quantitative research follows several key steps, including research design, sampling, data collection, data analysis, and interpretation. The presented research was carried out using a questionnaire, which is an effective method of quantitative research. According to Ondřejkovič (2007, p. 154-155), the questionnaire is widely recognized as one of the most prevalent research tools. He affirms its popularity and indicates that questionnaires are extensively employed in research. It offers researchers a means to gather information from a large number of participants efficiently. However, like any research method, questionnaires have their own set of advantages and disadvantages. One of the primary advantages of questionnaires is their ability to reach a large number of participants, making them suitable for studies requiring a broad sample size. Questionnaires are a cost and time-effective data collection method, particularly when compared to other forms of primary research such as interviews. Questionnaires allow participants to respond to sensitive or personal questions more comfortably than in face-to-face interviews. Anonymity can be ensured by removing identifying information or employing online platforms. Participants are more likely to provide honest and unbiased responses when they feel their privacy is protected, which increases the reliability of the data collected. Moreover, standardization allows using structured question formats, providing all respondents with the same set of questions, minimizing potential bias, and ensuring consistency. Regarding disadvantages, questionnaires often provide limited opportunities for participants to express their thoughts and opinions in detail. The use of closed-ended questions with predetermined response options can restrict deeper insight into respondent's perception of the studied phenomena (Carr, 1994). One significant challenge in questionnaire-based research is the potential for low response rates. Many participants may choose not to complete or return the questionnaire. However, the researcher of this study, knows both the students and teachers personally, therefore enhancing their credibility in collecting data in this form. Despite not achieving a 100% response rate for the questionnaires, nearly 90% of collected responses still constitute a significant majority, enabling the successful conduct of the research.

The questionnaires the author used were strictly designed in accordance with the methodological procedures for creating questionnaires. The research is based on the identification of attitudes and feelings from the design thinking workshop. The examined research problem was increasing students' and teachers' interest in applying design thinking to the educational process. The main goals were to:

1. find out if students and teachers consider design thinking to be an experiential form of the educational process; and
2. find out if both students and teachers would recommend design thinking as a suitable method for various academic subjects.

To explore the set goals, the researcher focused on the socio-affective area, which is one of three human dimensions (cognitive – knowledge, socio-affective – relationship, and psychomotor – action). This dimension was examined through a set of specific

questions, and the responses were measured using an identical scaling in the questionnaire (very significantly, significantly, moderate, occasionally, not at all). These questions were key in designing the hypotheses for the study:

Hypothesis (H1): Students identify presentation skills as their biggest challenge, whereas teachers, due to their profession, do not face significant issues in this area.

Hypothesis (H2): Teachers encounter challenges to digital skills, whereas these difficulties are less common among the students.

All three questionnaires were divided into four parts. The first part of the questionnaire for students is informative, in which the author obtained data on respondents (age and gender). In the second part, entitled “Personality”, we examined concentration during the workshop, knowledge, and digital skills. In the third part, entitled “Social Area”, attention was paid to cohesion in the working group, presentation skills, and task fulfilment. The final part focused on the “Practical Educational Process”. The research aimed to extensively identify and categorize the respondents among teachers based on their diverse roles, subject areas, and varying levels of professional experience. In the second part of the teachers’ questionnaire, entitled “Workshop Experience”, the focus was on perceiving their digital skills, concentration during the workshop, interest in activities, and their usage at their work. The third part, “Interaction during Workshop”, paid attention to cohesion within a working group, presentation skills, individual contribution as well as enrichment gained by opinions of colleagues. The final part, “Inspiration from Workshop” examined the practical contribution of the workshop to their further practical educational process. The researcher took advantage of today’s digital age and created online questionnaires in Google Forms, sent them out via email and the data was processed in the same way as it has a built-in automated collection of survey data. Ondrejko^{vi}č (2007, p. 72-83) emphasizes the importance of adhering to certain principles when conducting quantitative procedures. These principles include ensuring compliance with relevant laws, aiming for accuracy and objectivity, and seeking to generalize the acquired knowledge. Researchers are expected to maintain impartiality and distance themselves from the phenomenon being studied in order to minimize the influence of subjective attitudes that could potentially bias the analyzed data.

4. RESEARCH SAMPLE

The primary data collection tool employed in this study was online questionnaires. These questionnaires were utilized to gather data and subsequently analyze the results. The initial sections of the questionnaires aimed to obtain essential information about the participating teachers. Out of the 21 teachers who participated, 17 were women, and 4 were men. The age distribution among the participants revealed that the largest representation, accounting for 38.1% of the sample, fell within the 41 to 50 years age category. The second largest group consisted of individuals aged 31 to 40, comprising 23.8% of the participants. There were 4 respondents in the age category up to 30, 2 participants were in the 51 to 60 age group, and another 2 were aged 61 years or older. Another significant classification criterion for the respondents was their position within the academic sector. It was presumed that most participants would work as assistant professors (61.9%), the second largest group was formed by associated professors (28.6%) and the least represented group was doctoral students, only 2 of them participated. Not only the position but also the years in the academic sector are relevant to obtain the proper profile of respondents. It is interesting to note that a significant

portion of individuals in this group, specifically 42.9%, have a working experience of up to 5 years in the field of university education. Furthermore, 23.8% of them have worked in a university environment for a maximum of 10 years, while 19% have accumulated 15 years of experience. Only three teachers have surpassed the 16-year experience at a university. Considering the field of expertise, a significant majority of them (85.7%) concentrate on humanities, and 14.3% specialize in natural sciences. The design thinking workshop was attended by pedagogues specializing in English language and culture education from various faculties. These faculties encompass the Department of British and American Studies, which concentrates on specialized communication; the language department of the Faculty of Mass Media, which emphasizes the acquisition of new skills and the deepening of knowledge in professionally-oriented English language education; the centre for languages of the Faculty of Natural Sciences, which focuses on ESP in disciplines such as chemistry, environmental sciences, biology and biotechnology, computer technologies, and informatics; and the Faculty of Materials Science and Technology at Trnava, Slovak University of Technology in Bratislava, where the language centre prioritizes the development of practical skills suitable for the demands of the 21st century. Today, it is required that teachers will be versatile experts, thus it is necessary to gain experience not only in the academic field but also in the corporate world, public or third sector. Figure 2 shows that nearly one-third (28.6%) have worked only in an academic environment, exactly one-third (33.3%) have been experienced in the corporate world, 9.5% in the public sector, one individual has worked in the third sector and 23.8% in all mentioned.

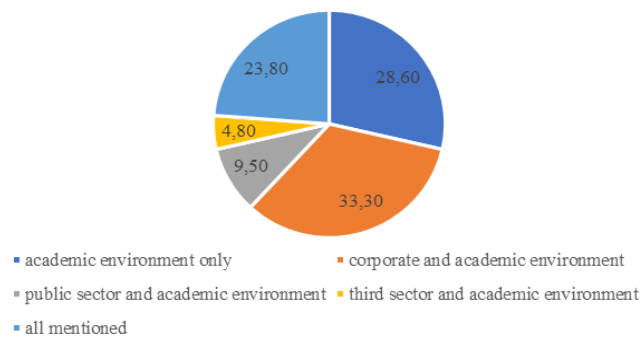


Fig. 2 Working experience of the teachers

Design Thinking workshops have been implemented in various academic disciplines, including literature and culture courses, as well as intercultural studies. These interdisciplinary courses emphasize specialized communication skills in the English language. So far, a total of three workshops have been organized specifically for students enrolled in English in specialized communication program within the field of Philology. Each workshop is designed for an optimal number of 25 participants. Out of the 75 students, 66 students, consisting of 14 males and 52 females aged between 20 and 27, actively participated in the research related to these workshops.

5. RESEARCH RESULTS AND THEIR INTERPRETATION

Learning and teaching a foreign language for practice requires focusing on intercultural aspects as there are often intercultural differences connected to communication. Intercultural differences are a part of life, and their acceptance is a prerequisite for effective communication in a foreign language. Intercultural communication presupposes certain knowledge and abilities that can be explored within the concept of intercultural intelligence (Dančišinová – Kozárová 2021, p. 18). Intercultural intelligence can be developed through intercultural training. One of the effective options for developing intercultural intelligence is design thinking, which represents a modern, iterative process aimed at understanding the needs of the user, which teaches them to identify alternative solutions to problems. Besides improving intercultural skills, design thinking provides room for enhancing soft skills which are a subset of transferable skills (Hurajová – Chmelíková – Luprichová, 2022, p. 231). Among these belong digital literacy and speaking foreign languages. The knowledge of a foreign language should always be perceived in connection to the purpose of its use (Dančišinová, 2022, p. 4). English holds a remarkable position as a language that embodies creativity, freedom of expression, and digital connectivity. It stands as one of the most influential communication systems globally, playing a central role in diverse fields, including science, education, mass media, politics, and the economy. Currently, cultural awareness holds great significance, emphasizing the crucial role of intercultural competence in ESP or CLIL teaching. This approach utilizes communication skills such as listening, writing, reading, and speaking, as instructional media, enabling students to acquire new information in a seamless and authentic manner (Luprichová, 2020, p. 8). Currently, all ESP teachers, disciplinary or CLIL teachers, are aware of the fact that the study of the English language includes not only the language itself, as it is a sociocultural phenomenon, but focuses on culture is comprised in all language courses so that the students could get within their education the “whole package” (Chmelíková – Hurajová, 2019, p. 443). When choosing a teaching method, it is desirable to take the student’s personality into account and not perceive him/her as a member of a group, but primarily as an individual with his/her own personal characteristics (Šebeň Zatlková, 2022, p. 15). With the development of pedagogical sciences and changing views on the educational process, there is a shift from traditional to innovative methods, which include case studies, didactic games, storytelling, online, hybrid, blended or flipped teaching, x-learning, etc.

Education is a continuous process based on experience and it is a process of adaptation. Kolb (1984, p. 41) defines x-learning as “the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience.” The purpose of the research was to investigate whether design thinking could be categorized as a form of x-learning. The findings revealed that 95.2% of the teachers viewed the workshop as an experiential method. Additionally, 85.7% of the teachers reported experiencing significant motivation from the workshop, while 90.5% expressed a positive interest in the activities. However, there was a decline in students’ interest compared to the teachers’ perception, as 68.2% of them reported a positive interest in activities. Motivation plays a crucial role in the educational process as it directly influences students’ engagement, effort, and overall learning outcomes. When students are motivated, they tend to actively participate in their learning, set ambitious goals, face challenges, and achieve better results. To foster motivation, teachers can implement various strategies and methods. These include providing meaningful and challenging tasks, offering opportunities for student choice

and autonomy, setting clear goals and expectations, providing constructive feedback, and cultivating a positive and inclusive learning environment. By understanding the unique needs and interests of their students, teachers can customize their instructional methods to enhance motivation and create a compelling and effective learning experience. Design thinking emerges as one such method, as it was perceived as a motivating approach by 72% of the students, and 80% recognized it as an experiential method.

To maintain the concentration and focus of workshop participants, allocating time for individual activities is essential. Even though all participants were adults accustomed to paying attention, a noteworthy percentage of students (19.7%) reported experiencing a significant or very significant loss of concentration. Additionally, 25.7% admitted to occasionally struggling to maintain attention. On the other hand, 54.6% claimed rare or no loss in concentration. Teachers displayed a higher level of focus compared to students, with 57.1% reporting no loss of concentration, 23.8% experiencing occasional distractions, only one participant expressing significant difficulties with concentration, and 3 reporting slight challenges.

Design thinking workshops now offer the freedom to choose between in-person and online forms, providing a lot of benefits for participants. This adaptive approach not only saves valuable time but also enhances overall effectiveness by empowering individuals to shape their digital identities. The digital space has become deeply intertwined with modern culture, diverging from the cultural norms in which individuals were originally raised. Personal identity, once primarily shaped by the environment of one's birth, is now evolving through an institutional aspect, allowing individuals to actively shape their own identities based on personal choices and decisions. However, the increasing amount of time spent in the digital world is transforming the very essence of identity. At the core of this transformation lies the concept of digital identity, which is heavily influenced by new technologies that have become defining factors in human life (Pecníková, 2018, p. 64). In its essence, digital identity can be understood as a compilation of information about an individual's personality in a virtual environment (Pondelíková, 2020, p. 31). This virtual persona is not a replacement for one's real-life identity but rather a reflection of how they present themselves and interact within the digital realm. As the digital world evolves, other forms of using digital space, such as remote work, online or hybrid education, virtual team collaborations, and video conferences, are becoming increasingly significant for the future. Digital literacy stands out as a major challenge faced by teachers today. The rapid transition to an online educational process has intensified the demand for enhanced digital skills. Surprisingly, a substantial portion of educators (71%) have encountered notable barriers in this area. In contrast, Millennials possess an innate proficiency in utilizing diverse devices and applications, thereby affirming our hypothesis (**H2**) that students confront fewer obstacles when it comes to digital skills. Merely 20% of students reported experiencing difficulties in this area (Figure 3). This result can be attributed to their status as a generation of social media and the digital world. They share everything on social networks, do not read, but watch videos, take photos of everything, and communicate through pictures more than words or text (Miština et al. 2022). Their main entertainment is the internet; they are connected via various applications because these media guarantee them sufficient anonymity. It is evident that the education system needs to be adapted to this new generation, which has its own expectations and ideas about the role of education in their lives. These students require universities to link their studies to real professional life using digital devices. One

of the best practices to design a suitable educational process for Generation Z is joining the design thinking workshop.

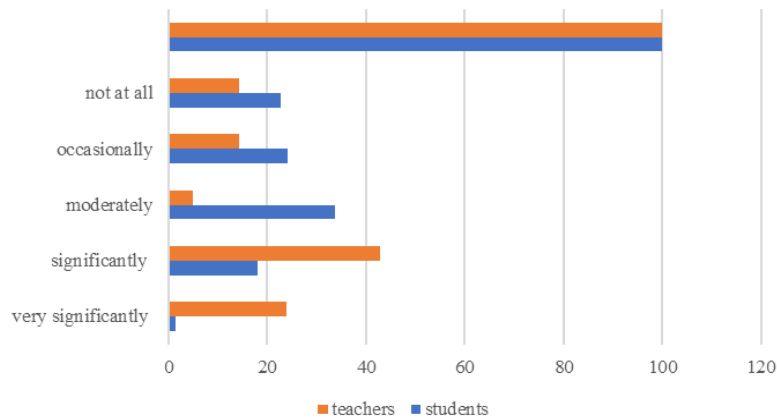


Fig. 3 Comparison of digital literacy between teachers and students

Design thinking is used to teach traditional subjects to cultivate students’ 21st century skills. The author has modified the existing design thinking framework and applied it to English in specialized communication courses. It helps learners improve their communication skills with a focus on interculture and develop or improve creative and critical thinking. In professional and academic life, critical thinking enables both students and teachers to find quality sources of information and arrange them in a hierarchy, identify plagiarism, and corroborate authors’ authority (Javorčíková – Badinská, 2021, p. 656). This is one of the reasons why design thinking has attracted the attention of teachers, students, and researchers. While creativity is considered a core 21st century skill, teachers must adapt their teaching regarding skills needed for the current century and improve their creativity as well. Both groups, students and teachers, confirmed the applicability of knowledge and skills obtained in the design thinking workshops, particularly 80.9% of teachers and 66.7% of students perceived the usage of acquired competencies and information in practice (Figure 4).

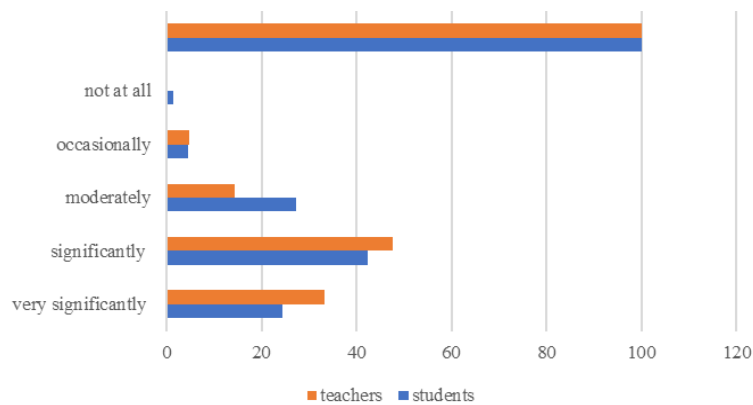


Fig. 4 Applicability of knowledge and skills

Subsequently, in the third part, entitled “Social Area”, focused on the examination of cohesion in the working group, communication, presentation skills and task fulfilment. Notably, university students, who are accustomed to collaborating, demonstrated a higher level of cohesion within their working groups, as affirmed by 60% of respondents. The teachers perceived a considerable high level of cohesion, with 95% expressing positive sentiments. Regarding expressing their own ideas, both groups encountered little or no obstacles. As evidenced by responses 85.7% of teachers and 73% of students felt at ease sharing their thoughts. Moreover, the fulfilment of the group task was perceived positively, with 89% of students confirming that they achieved the stated goal without or with only minor difficulties. Remarkably, teachers did not encounter any obstacles in accomplishing the objectives.

Effective communication skills play a vital role in fostering positive interactions within any working group. Such communication is clear, comprehensible, recognizable, non-conflicting, and fosters the discovery of optimal solutions acceptable to all parties involved. Moreover, assertive communication respects personal dignity, encourages the expression of diverse opinions, and avoids hurtful language (Pondelíková, 2020). During the workshops, the majority of participants encountered no communication barriers, which was confirmed by all teachers, and 85% of students reported either no or minor difficulties.

Developing proficient presentation skills is essential for individuals across various fields, including students, teachers, business professionals, and frequent public speakers. An effective presentation should result from the combination of two elements. One of them is the application of rhetoric canons, whereas the other is related to the use of visual aids introduced via modern technologies (Urbaniak – Bielak, 2021, p. 156). The design thinking workshop serves as an excellent event for enhancing these skills by providing valuable opportunities for audience analysis, customizing presentations to meet user requirements, incorporating relevant and meaningful content (especially for English for Specific Purposes (ESP) teachers or CLIL teachers), organizing and structuring presentations effectively, demonstrating language proficiency, utilizing visual aids (including various presentation programs), rehearsal, encouraging interactivity and engagement to involve the audience and obtain feedback, and effectively managing time for each workshop activity. By focusing on the specific language and communication needs in educational settings, design thinking facilitates the delivery of impactful presentations. It is important to

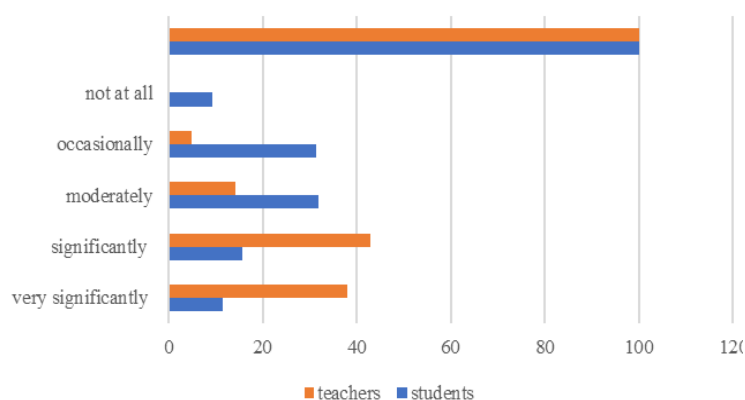


Fig. 5 Difficulties with presentation skills

note that students, constituting nearly 60% of the participants, identified presentation skills as their major challenge, while teachers, by virtue of their profession, reported fewer issues in this area (81%) (Figure 5), thereby affirming our hypothesis (**H1**).

Our final emphasis was on the “Practical Educational Process” and “Inspiration from Workshop”. The feedback from the participants showed overwhelming support for design thinking as a suitable, innovative, and effective teaching and learning method across various academic subjects, especially English language courses. Remarkably, 85.7% of teachers and 77% of students highly recommend this approach. Additionally, a significant proportion of teachers (71%) expressed that they found design thinking to be a source of inspiration in shaping the content and structure of their own subjects. Similarly, 73% of students reported that the workshops provided them with inspiration for designing and completing assignments related to various academic subjects. The positive responses from both teachers and students indicate the potential and impact of design thinking as a transformative approach in the field of education, fostering creativity, problem-solving skills, and engagement in the learning process.

Contemporary teachers specializing in foreign languages, such as ESP teachers, CLIL teachers, or disciplinary teachers have shown a profound understanding of the necessity for incorporating interdisciplinary elements into their courses customized for the current generation. A striking contrast exists when compared to previous teaching practices, as traditional lectures and information dissemination methods have undergone a radical transformation. This shift is great news for teachers. “Instead of struggling to provide students with all information they need to succeed in all areas the teacher knows little about, they can support students as they make their own steps into different fields” (Driscoll, online). The overwhelming majority of teachers who actively participated in the design thinking workshop, specifically over 90%, perceived the effectiveness of this innovative approach in sharing knowledge to Generation Z (Figure 6).

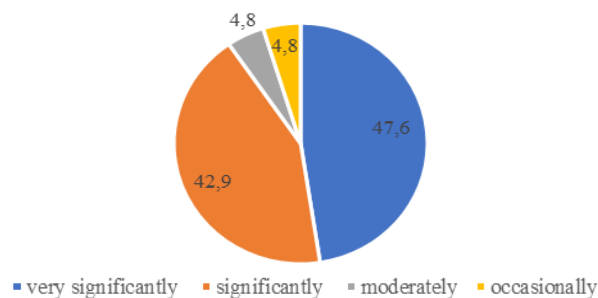


Fig. 6 Sharing knowledge with Generation Z

Furthermore, an impressive 85.7% of these educators acknowledged the potential of this method in recognizing the individuality of each student (Figure 7). By acknowledging and respecting individuality, educators can create a more inclusive and supportive environment, ultimately enhancing student engagement and knowledge retention. This contemporary outlook on teaching foreign languages is indicative of an educational paradigm shift. Teachers have come to recognize that merely focusing on language proficiency is no longer sufficient for the holistic development of students. Instead, a multidisciplinary approach is being

embraced, ensuring that language lessons are interwoven with various subjects, making the learning experience more engaging and meaningful. This transformation not only enriches language education but also empowers the current generation of students to thrive in an increasingly complex and interconnected world. As educators continue to evolve their practices, they play a pivotal role in shaping the future of language learning and fostering a generation of open-minded, adaptable, and culturally aware individuals.

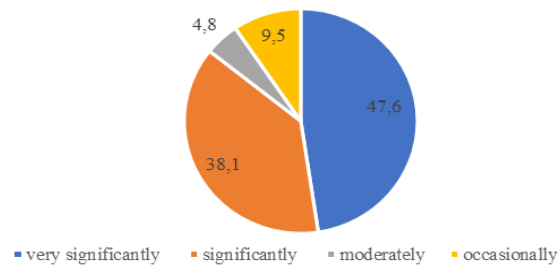


Fig. 7 Recognizing the individuality of a student

Assessing the knowledge, skills, and competencies acquired by students in the educational process can be accomplished through diverse traditional forms, approaches, and methods, the effect and benefit of which are undeniable and even today irreplaceable. However, due to the use of information and communication technologies, other interactive multimedia forms that can be used in the evaluation are also coming to the fore (Miština – Jurinová, 2022, p. 282), which meets the requirements of a new generation that calls for fresh approaches to evaluating their knowledge and abilities. While traditional methods like marks or grades remain prevalent, they often fail to accurately assess an individual's true potential. Design thinking offers an innovative alternative to conventional evaluation systems, promoting a collaborative and insightful way of evaluating students' progress. In fact, 76% of teachers find design thinking to be an effective and transformative approach to evaluating their students (Figure 8).

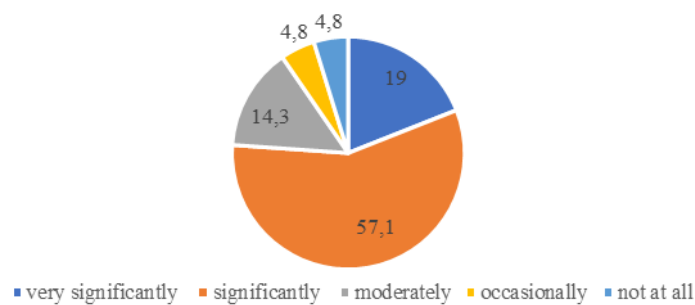


Fig. 8 Design thinking as an effective and transformative approach to evaluate students

Through the integration of design thinking principles into the educational process, educators can revolutionize the learning experience, cultivating a dynamic and communicative environment that enriches both students and teachers through the sharing of knowledge and

information. Remarkably, 95% of teachers reported feeling inspired and enriched by actively engaging with their colleagues, and similarly, 92% of students confirmed these emotions as well.

Incorporating design thinking in the educational system holds the key to unlocking an individual's true potential. This innovative alternative to conventional evaluation systems has garnered significant support from educators, claiming that they recognize its effectiveness and transformative impact on students' progress. Integrating design thinking principles into the educational process supports communication in a foreign language as well as knowledge-sharing between students and teachers. As evident from the survey, teachers and students felt inspired and enriched by actively engaging with their colleagues or peers. Design thinking offers a promising path forward in education, fostering an inclusive and supportive environment in which both students and teachers can flourish.

6. CONCLUSION

The main aim of higher education is to prepare skilled professionals for creative, managerial, and professional roles across various fields of social practice. This involves equipping students not only with theoretical knowledge but also scientific expertise, enabling them to contribute to the cultural and economic prosperity of society. To achieve this goal, specific objectives need to be defined and pursued through appropriate teaching methods. The adequacy of these methods in relation to the goals is crucial and essential for effective education (Sirotová, 2022, p. 10-11). Selecting the most fitting teaching methods ensures that the essence of the educational process aligns with the desired outcomes. One such versatile approach is design thinking, applicable not only to designers but to all innovators. It can be used in literature (Pondelíková, 2022; Brooks, 2022), foreign language teaching to engage students with the target language and cultures (Sperling, 2022), art where it is transforming into art thinking (Robins, 2018), translation and interpreting for enhancing cognitive strategies (Bohušová, 2017, p. 58) and translators' competencies (Welnitzová, 2023, p. 12), music (Badizadegan, 2019), and in the first place in science, industry, engineering, and business. Its primary objective is to uncover unconventional strategies and solutions beyond initial understanding.

In education, it can revolutionize teaching and learning, making them more engaging for learners. *The World Economic Forum* (2023) highlights key skills for tomorrow's job market, including analytical thinking, innovation, active learning, problem-solving and ideation, critical thinking, creativity, leadership, technology design and programming, stress resilience, and reasoning. To meet market demands, universities must adapt. Design thinking as an innovative teaching method can enhance these skills. Research showed that it is recommended by both, students and teachers, as they consider it a modern approach for English courses (ESP, CLIL courses, translation and interpreting) as well as other subjects, providing benefits to students who are studying (in-person or online) in a friendly and enjoyable environment. Motivation plays a crucial role in successfully implementing design thinking into the educational process. Even small efforts can make a difference. Participating teachers gain inspiration for their subjects, evaluation, and recognize the significance of improving their digital literacy. Meanwhile, students find presentation skills to be the most challenging aspect. Design thinking helps identify participants' needs, address challenges, and create opportunities to improve communication skills in foreign languages, enhance digital abilities, and master presentation techniques.

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