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Implementing Design Thinking and Peer Instruction in an Online Environment to Develop Tourism Undergraduates' English Language Skills

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Abstract

Design thinking (DT) and Peer Instruction (PI) are two different and seemingly distant methods. However, both rely on students' active participation, cooperation and communication with each other. Due to these features, therefore, they have the potential to foster foreign language competences successfully. Nevertheless, what if they were employed in a purely online learning environment? Could they still bring the praised learning outcomes, such as better conceptual understanding, more effective problem-solving, communication and teamwork skills, and increased student engagement and creativity? The present study aims to answer the given question by giving insight into implementing the methods in English for Specific Purposes courses at Constantine, the Philosopher University in Nitra (Slovakia). The action research findings were juxtaposed to the interview and questionnaire results revealing 101 tourism undergraduates' views. Despite some technical issues and the students' mixed-language communication, both DT and PI proved to be almost as effective in a purely online environment as in the case of a traditional classroom in terms of developing foreign language competences and problem-solving skills, creative or critical thinking, as well as enhancing teamwork and motivation.

Key words: design thinking, peer instruction, English for specific purposes, tourism English, online learning environment, distance education

Introduction

Like many countries in the world, higher education in Slovakia has been significantly affected by the COVID-19 pandemic since its outbreak. As a result of the anti-epidemic measures, the full-time form of education at all universities was interrupted in March 2020. It was rapidly replaced by distance education which at Constantine the Philosopher University in Nitra (Slovakia) lasted until the beginning of the summer semester in 2022, i.e., students returned to the classrooms after the first three weeks. Thus, they spent three semesters (1.5 years) of their studies in a purely online environment. However, this does not necessarily mean that the learning process is less efficient than on-site education. Distance education's effectiveness depends on many factors and can be diverse across different subjects, courses or academic fields. Indeed, differences may be found between the efficiency of distance learning for information technology or business-related courses and for disciplines developing language skills which require constant communication and interaction of the participants, such as 'English for Specific Purposes' (ESP) (Hrdličková, 2021). In particular, in 'English for Tourism', as Cloudia Ho (2020) emphasises, 'Communicative Language Teaching' (CLT) improves learners' communicative abilities through authentic materials and communicative activities in a dynamic and active learning environment. This is the best approach to enable them to meet the needs of the tourism industry. CLT aims to foster learners' communicative competence in reading, listening, speaking, and writing (Brown, 2014). Communicative competence is the ability to use language in real-life situations to meet communication needs (Ahmed, 2018). CLT's

most frequently used activities include group discussions, interviews, brainstorming, and problem-solving tasks (Larsen-Freeman & Anderson, 2011; Richards, 2006).

Drawing on the above-mentioned tourism undergraduates' needs, two methods, i.e. 'Design Thinking' (DT) and 'Peer Instruction' (PI), were selected to be implemented in the 'Tourism English' classes at the Department of Tourism in the winter semester of 2021. This was to test whether these methods could provide the required communication-centred, interactive and dynamic learning environment - even in the online sphere. The reason for choosing DT and PI was that both are based on constant collaboration and interaction. Hence, they can foster foreign language skills and make students active in virtual learning environments, as recommended by Karatas and Tuncer (2020). DT was piloted at the given department prior to the outbreak of the pandemic and proved to be an efficient way of enhancing communication, teamwork and motivation (Sándorová, 2018; Sándorová et al., 2020). The testing of PI was also planned long before the pandemic; yet, due to some delays in the supply of the technical equipment, it could only be piloted after the outbreak of the coronavirus, i.e. in an online learning environment.

The design thinking method

In order to help businesses to meet their clients' expectations, the DT method was launched by IDEO, an American firm offering innovative approaches to design in the 1990s (Luka, 2014). A decade later, it was introduced in education by Stanford University d. school in California's Silicon Valley. Even though it has mainly been applied in the design and economy-oriented study programmes, it has also been successfully implemented in less business-oriented areas (Beaird et al., 2018; Çeviker-Çinar et al., 2017; Tan & et al., 2014; Wrigley & Straker, 2015). Nevertheless, the DT method is also used in several Montessori schools since, due to its hands-on features, it parallels Maria Montessori's pedagogical approach (http://www.urbanmontessori.org/design_thinking). In addition, it shares some common characteristics with other educational theories of the 20th century, such as Dewey's and Kolb's philosophy of learning (Brown et al., 2018; Dewey, 1938; Kolb, 1984; Miettinen, 2000; Williams, 2017).

Drawing on the Stanford model, DT is a process of five steps. The first is empathising, during which, using interviews and observation, the participants learn about customers' needs. In the second step, i.e., defining, they state the problem that has to be solved. The next phase is ideating, including brainstorming and prioritising, to collect ideas and find a solution to the given problem. It is followed by prototyping the chosen idea using a variety of materials. As the last stage, testing aims to find out whether the created product or service can meet customers' needs through interviews or observations (Hasso Plattner Institute of Design, 2018; Henriksen et al., 2017).

Nevertheless, Çeviker-Çinar et al. (2017) claim that DT is not only a process but rather a "philosophy". Similarly, Baeck & Gremett (2012 in Luka, 2014, p. 66) consider it a "mindset" that several specific features can characterise. According to them, it is a holistic approach since it seeks a solution to the given problem from a wider perspective. In addition, it has a rather cyclical and iterative character. Furthermore, it requests a non-judgmental and open attitude to find untraditional, novel ideas for problems. Another feature is ambiguity, as participants' comfort zone is challenged by ambiguous, i.e., unclear, situations. The other attributes involve collaboration, which refers to intense teamwork, constructive thinking connected to its problem-solving approach, empathy, and curiosity to meet customers' expectations.

Consequently, during the phases of the DT method mentioned earlier, several skills are efficiently challenged. First of all, since the participants are divided into groups, and the

task cannot be completed without intense cooperation and communication, it fosters teamwork and communicative skills (Çeviker-Çinar et al., 2017; Henriksen et al., 2017; Rauth, Köppen, Jobst & Meinel, 2010; Retna, 2016). Furthermore, as mentioned, students are expected to develop innovative and creative solutions to the defined problems, and DT enhances their creativity and problem-solving (Dolak et al., 2013; Luka, 2014). Also, emphasis is put on "soft skills" (Çeviker-Çinar et al., 2017), such as interpersonal skills or the ability to empathise, that, according to Andrews and Higson (2008), play an essential role in improving graduate employability.

As mentioned, DT was first applied in tourism and hospitality education at Constantine the Philosopher University in Nitra, Slovakia, in 2018 (Sándorová, 2018; Sándorová et al., 2020). However, no evidence has been found so far that the method was and could also be used in an online learning environment. Hence, to fill this gap, in 2021, it was implemented and tested in selected online courses at the same university. The investigation results are provided in the next chapter of the study, after the theoretical essentials of the Peer Instruction Method.

The peer instruction method

As stated by Crouch and Mazur (2001), 'Peer Instruction' belongs to the most widely researched and used active learning techniques in university science courses. The essence of Peer Instruction is based on the continuous activation of students with appropriately formulated questions that create favourable conditions for practising critical mental processes. The conceptual basis of the Peer Instruction (PI) method is to ask appropriately formulated questions to provoke discussion and to learn from each other. The answering of questions in the course of the PI educational cycle occurs first independently. In the case of findings of insufficient learning, it is followed by a phase of peer discussion ending with another round of answering - usually of the same question. Mazur (1997) defined the following seven basic steps of the Peer Instruction method:

1. The teacher gives a question to the students. (1 min)
2. Students think of the answer. (1 min)
3. Students select/write their answers individually for the first time. (optional)
4. Students discuss their responses with their neighbours. (1-2 min)
5. Students select/write their answers individually for the second time. (optional)
6. Students give the teacher feedback and answer/discuss the question.
7. The teacher explains the correct answer(s). (2+ min)

An essential aspect of the PI educational cycle is the teacher's role as a facilitator, who not only formulates the conceptual questions but also moderates the whole course of the lesson. It is, therefore, essential that he/she perceives the students' reactions with sufficient sensitivity and dynamically intervenes in the course of the lesson to lead the students to understand and master the lesson. Therefore, during the implementation, the need for a high degree of interactivity, including three key elements: engagement, interaction and feedback, is emphasised (Reeves, 2012).

Interactivity as a supporting element of a quality educational tool is, among other things, an inherent condition for building the right relationships in the context of teacher-student, student-educational and student-student content. These connections undoubtedly contribute to the achievement of the set educational goals. The effort to increase the quality of interactivity, i.e. the manner and frequency of interaction relations, must be reflected in the work of the modern teacher by working together to create appropriate and supportive backgrounds for:

- asking and answering questions,
- adapting the learning content and teaching aids to students' abilities and capabilities,
- solving constructive, practice-oriented problems.

Bruff (2009) points out that this form of work is a simple method for getting students to start having a professional discussion about the curriculum. It can even spark a whole-class discussion and engage every student in the class. The data showed that Peer instruction helped students choose the correct answer by acquiring new knowledge. Increased student accuracy as a further benefit of group discussions refers to better performance than individual activities (Tullis & Goldstone, 2020).

During Peer Instruction, students work with the key concepts that the teacher previously presented: they try to apply and explain them to each other. As opposed to a traditional way of asking questions that usually activates only a few students in the class, in the process of PI, all the students must record their answers to the proposed question, which means that everybody is involved in the lesson (Crouch & Mazur, 2001).

Student engagement and attitudes are essential measures of the success of a given teaching method. However, they are very complex and can be affected by several factors. In connection with the application of the PI method, we also encounter cases in professional publications where no significant positive impact on students' attitudes has been shown (Eryilmaz, 2004; Sencar-Tokgöz, 2007), but also contradictory findings are pretty common (Knight & Brame, 2018; Raigne et al., 2015; Beták, 2014). On the other hand, according to an analysis of studies (Schell & Butler, 2018). Peer Instruction's most significant learning outcomes comprise better understanding and fixation of the presented concepts, increased motivation and improved problem-solving and teamwork skills.

Even though it has been applied and investigated in foreign language education less frequently, Zou & Xie (2019) recommend using it more widely. Similarly, Dumont (2013) claims that Peer Instruction has considerable potential in teaching foreign languages due to its interactive and collaborative features. Therefore, in 2021 together with the method of DT, it was selected to be applied and tested online in two Tourism English courses during the COVID-19 pandemic. The methodology and findings of the given investigation are in the spotlight of the following chapters.

Methodology

The main aim of implementing DT and PI online in the English-for-Tourism-focused courses was to test whether they can be equally well-applied in a purely online environment, as in the case of face-to-face in-room learning. Furthermore, to find out whether they also fulfil the functions they are praised for, in particular, develop language skills, creative and critical thinking, and problem-solving skills, as well as enhance teamwork, communication and motivation.

Three partial research objectives were formulated to achieve the identified research aim:

1. To identify the language skills developed most intensively by applying the DT and PI methods online and to find out whether they can enhance communication in the English language even in a purely online environment.
2. To find out whether the methods in question can enhance teamwork and motivation, and develop creative and critical thinking as well as problem-solving skills in a purely online environment.
3. To learn about the challenges of applying the methods in question online to provide recommendations for educational practice.

Drawing on the given objectives the researchers sought the answer to the following research questions:

a) Which language skills are developed most intensively by applying the methods in question online? Can DT and PI enhance communication in the English language even in a purely online environment?
b) Can DT and PI enhance teamwork and motivation, and develop creative and critical thinking as well as problem-solving skills in a purely online environment?
c) What are the challenges of applying the methods in question online and what recommendations can be given for the educational practice?

In order to achieve the identified aims and answer the research questions, *three research methods* were used, as follows:

1. *Action research* including observations carried out by the teacher-researcher using lesson plans and a diary, as well as taking field notes;
2. *Semi-structured interviews* with the students using a pre-defined set of questions;
3. *Questionnaire survey* using an online questionnaire.

The main aim of the interviews was to complete the method of action research and to provide some background information about the students' work, i.e. It was a requirement to gather information about the issues that could not be seen by the teacher-researcher due to the peculiarities of the online environment. This was mainly when the students worked in break-out rooms. Similar to the interviews, the questionnaire survey served for fine-tuning the findings of the action research by capturing the respondents' opinions expressed regarding the research questions.

Qualitative research design was chosen to get a holistic picture of the investigated phenomena. This is generally characterised by the concept of description, induction, generation of the theory, construction and subjectivity. However, to avoid misleading subjectivity, the method of triangulation is usually applied. This can be defined as combining several qualitative methods or mixing quantitative and qualitative methods. In fact, triangulation, provides a reliable means of obtaining broader, holistic knowledge of the examined field of study. However, it is also "used as a strategy of improving the quality of qualitative research", i.e. to ensure validity (Dörnyei, 2007, Flick, 2010, p. 405; Sándorová, 2017).

The research sample and instruments, as well as the procedure of the research applying the particular methods, are described below in separate subsections.

The research sample

Concerning **action research,** 55 first-year students were divided into three groups and 49 second-year students into two groups. **'**Design Thinking' (DT) was applied online five times, i.e. in five lessons, three times within the course of 'English Language 2' and twice in the 'Business English 2' lessons. The activity within the given grade was the same for all the groups. The 'Peer Instruction' (PI) method was applied seven times, three times in the course of 'English Language 2' and four times in the 'Business English 2' lessons. The activity for the first-year students was the same; however, two different activities were implemented in the case of 'Business English 2'.

The **interview sample** consisted of 14 students who attended it based on their willingness to be involved. Since each belonged to a different group, the researcher got a valuable insight into the work of 14 different groups, (being half of all the groups created for the online DT and PI activities). The sample also reflected the proportion of all the students involved in the activities in terms of their nationality, grade and sex, as it

included seven first-year and seven second-year students, seven Slovakian, six Hungarian and one Ukrainian student, three male and 11 female students.

The research sample of the **questionnaire survey** involved 101 (54 first-year and 47 second-year) tourism undergraduates majoring in the 'Regional Tourism BA study programme'. The participants of the questionnaire survey attended either 'English language 2'or 'Business English 2' in the winter semester of 2021.

The research instrument and the procedure

In terms of the action research, with both DT and PI, the lessons were carefully planned to use a Word document for this purpose. After each lesson, the teacher-researcher wrote about her experience and added her comments using the same Word document as a kind of diary. In addition, two different lists of criteria were developed for the purpose of the action research using DT and PI (see Appendix 1), while the researcher used a new chart each time she worked with the given methods. The pre-prepared charts also served for taking field notes during the action research. After conducting the action research, the notes and the data collected in the charts were summarised with the teacher's lesson plans and diary to evaluate the activities and answer the research questions.

The research instrument of the interview was a list of eleven open-ended questions. The first five focused on the method of DT and the other six on the PI activities (see Appendix 2). Based on the students' permissions, the interviews were all recorded using Microsoft Teams collaboration tool or the recording function of the teacher's mobile phone. Finally, all the answers were written on a separate sheet, grouped alongside the most frequent themes using the thematic analysis method and summarised by answering the research questions.

Due to the pandemic restrictions, the Google Form questionnaire was distributed, and the answers were collected online. Since the present study is part of a more extensive investigation, the online questionnaire was divided into six main parts. However, for the present study, only four questions of section C were analysed (see Appendix 3). The selected items of the anonymous online questionnaire were elaborated, drawing on the research tool used by Karatas and Tuncer (2020); however, they were slightly modified to meet the objectives of the present research. In addition, they were formulated as closed questions in the students' first languages, i.e., either Slovak or Hungarian, using a four-point Likert scale. The data were analysed quantitatively using the functions of Excel. The results are described in the next part of the study.

Results

The findings of the investigation are analysed around three key themes reflecting the research objectives: 1. Language skill development and language use, 2. Enhancing cooperation, creativity, critical thinking and motivation, and 3. Challenges of using DT and PI.

Language skill development and language use

Our first objective was to find out which language skills can be developed most intensively by applying DT and PI online, as well as whether these learning techniques can enhance communication in the English language (Dumont, 2013; Sándorová, 2018; Sándorová et al., 2020; Zou & Xie, 2019). Therefore, we focus on two main areas, i.e. language skill development and language use in a purely online environment.

Language skill development

Based on the results of the observation and field notes during the action research, regarding DT, the most often used skill was speaking since it was used seven times for

approximately 125 minutes within each lesson of 'Business English 2' and four times in the case of 'English language 2' lessons for about 85-90 minutes. Furthermore, writing was the next most intensively developed skill; it was used in four activities for 95 minutes in 'Business English 2' and twice for 65 minutes in 'English language 2'. Receptive skills were less often used, though; reading only once (10/30 minutes) and listening once or twice for 10 or 20 minutes on the teacher's instructions.

Concerning PI the most intensively used skill in the case of 'English language 2 lessons' was also speaking, since it was used five times for approximately 42 minutes. However, within the lessons of 'Business English 2', it was reading, used 6 and 8 times for about 38/42 minutes. The second most intensively developed skill in the case of 'English language 2 lessons' was reading (used five times for 22 minutes); whereas in the 'Business English 2' lessons it was speaking (used three and four times, for about 20/25 minutes). Listening skill was used to a lesser extent in both courses, mainly on the teacher's instructions or watching a short video, twice and for about 15 minutes in the case of 'English language 2' and once for 10 minutes within the lessons of 'Business English 2'. Finally, writing was the only skill that was not used at all.

Comparing the outcome, in conclusion, both methods develop speaking skills the most intensively. However, lessons using the method of DT contributed to the development of the other three language skills, as well. The development of skills was also more intense using DT due to the longer duration of the activity. In the case of PI activities, only reading, speaking and listening skills were involved.

Participants of the questionnaire were also asked about their opinion on the impact of DT and PI on particular skills. The results were recorded by using a four-point Likert scale, where value 1 meant a strong consensus with the positive impact and effectiveness of the given method on the particular skills, while value 4 referred to a strong disagreement with this statement.

As can be seen in Figure 1, the majority of the participants "agreed absolutely" or "agreed rather than disagreed" that the activity using the method of DT had developed all the given skills effectively. The most positive answers were given, though, not surprisingly, in terms of "teamwork skills", since 88, 12% of them considered DT to develop them effectively; followed by other skills, i.e., vocabulary and grammar skills (87, 12%), speaking (83,16%), writing (80,19%), reading (75,24%), digital skills (68,31%) and, finally, listening (66,33%).

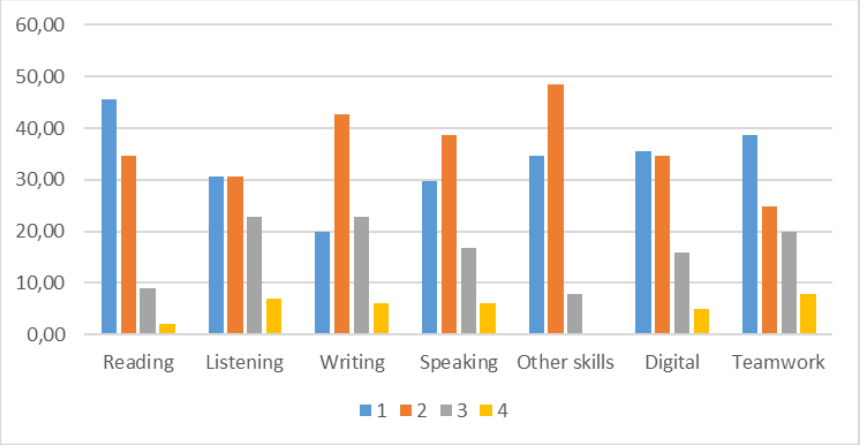


Figure 1: The impact of DT on particular skills according to the tourism undergraduates' opinions

Concerning PI, as shown in Figure 2, the most positively affected skill according to the students' views was reading (80,19%) and other skills (80,16%), followed by digital skills (70,29%), speaking (68,31%), "teamwork" skills (63,36%), writing (62,37%), and listening (61,38%).

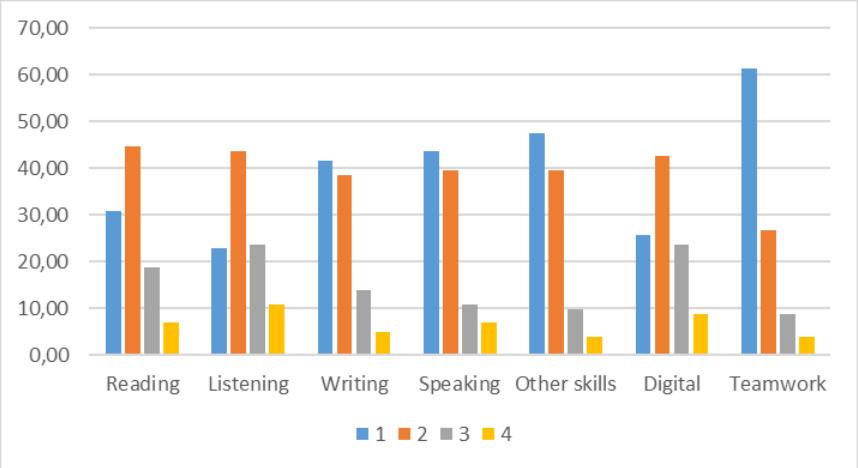


Figure 2: The impact of PI on particular skills according to the tourism undergraduates' opinions

Comparing these methods, according to the tourism undergraduates' opinions, both can develop all the particular skills effectively, while in terms of language skills, DT is the most appropriate to use for productive skills (speaking and writing) and PI was the most positively viewed for reading skills and speaking. They are both considered to be equally supportive with regard to other skills, i.e., vocabulary and grammar skills. If we juxtapose the findings of the action research and the questionnaire, both similarities and contradictions can be detected. The former acknowledges the higher intensity of the skill development during the DT activities rather than in PI tasks and also the level of productive and receptive skills development, i.e. speaking and writing in DT and listening and reading in PI.

However, students did not find PI as supportive in terms of developing speaking skills as was observed during the lesson. This can be explained by the fact that they usually did not use purely English language when conducting the discussion in break-out rooms (See language usage section). Another contradiction is that 62, 37% of the participating students "agreed absolutely" (or "agreed rather than disagreed") that the PI activity developed writing skills effectively, (even though it was not a part of this process). The reason behind this controversy could be that some of the students might have taken notes and therefore either regarded the task also as a writing activity or simply did not remember clearly every moment of it.

Language use

Based on the results of the observation and field notes during the action research, regarding DT, the most often-used language when the teacher entered the break-out rooms, was a kind of "mixed language" (English-Slovak, English-Hungarian or English-Ukrainian). Out of the 123 visits, in 100 cases, students communicated in this way. 21 times the teacher heard the students speaking only in their first language and twice there was purely English conversation.

Similarly, "mixed language" was the most often used option in the rooms where the PI activities were conducted, since out of the 96 visits, in 82 cases, students communicated in this way. On five occasions the teacher heard the students speaking only in their first language and nine times there was purely English conversation. Even if it seems that students used English more frequently during the PI break-out room sessions than in the case of DT, it does not necessarily mean that the former enhances better communication merely in English. Rather it could have been a coincidence. Alternatively, in some cases, it could have been connected to the fact that the DT activities required creativity and developing ideas which are much more difficult to express in a foreign language than discussing what is already written, as in the case of PI.

As far as the results of the interview are concerned, in the case of DT, ten out of the 14 students admitted that they had used “mixed language”, so they spoke in their mother tongue (Slovak/Hungarian/Ukrainian) but also used English when creating the ideas, grouping or when creating the prototype and the presentation, i.e. they had not translated their expressed views but used them in English. Two other students mentioned that they had talked only in English to each other, while two of them confessed that they used almost purely their first language and translated the words into their first language.

Regarding ‘Peer Instruction’ (PI), 12 people mentioned that they usually used the mixed language option, i.e., they talked to each other in their first language (Slovak/Hungarian/Ukrainian) but kept the questions and the answers in the original English form. Six also confessed that they had sometimes translated the questions and the answers into their first language. Two students claimed that they had discussed the questions in English.

To summarise the findings of the action research and the interviews, with both methods, mixed language was the prevalent means of communication and only a small number of stronger students persisted in using merely the English language. Also, the use of the students’ first language and translation appeared in both activities, even though with PI it was somewhat less frequent.

Enhancing cooperation, creativity, critical thinking and motivation

Since our aim was to investigate whether in a purely online environment ‘Design Thinking’ (DT) and ‘Peer Instruction (PI) can enhance teamwork and motivation, and develop creative and critical thinking as well as problem-solving skills, as claimed by several researchers (Dolak et al., 2013; Henriksen, et al., 2017; Luka, 2014; Retna, 2016; Sándorová et al., 2020; Schell & Butler, 2018), we were primarily interested in three areas: the completion of the tasks as expected or instructed, the outcomes of the activities, (i.e. the final products or results) and students’ opinions and motivation.

Completion of the tasks

Based on the results of the interview analyses, regarding DT, all 14 students claimed that they followed the instructions given by the teacher. However, in some cases, minor modifications were made by some groups, e.g. due to misunderstanding the task at the beginning, and completing the task earlier or later than instructed. Regarding the procedure, they usually copied the instructions to the chat in their rooms and worked on the steps and tasks together, often sharing their screens and using a shared Word document or PowerPoint presentation.

In terms of PI, most students (10 out of 14) claimed that they answered the questions based on their memory and intuition since there was no time to look for them in the text. However, the other four students mentioned that some questions were straightforward

and the answer could be logically deduced from the text. In other cases, when they were not 100% sure about the answer, they had to look for the answers in the text. In addition, all the students said that during the break-out room sessions they started the discussion by saying which options they had chosen. Most of them (nine out of 14) claimed that they usually managed to agree on a final option having discussed them. Then in the second round, they all voted for the same answer. However, the other five groups confessed that they could not always agree on a given response and argued a lot.

As far as the findings of the action research are concerned, in terms of DT, out of 28 groups, 27 completed the task according to the teacher's instructions and expectations. Regarding PI, all 151 students (the second-year students had two lessons using PI online) completed all the tasks as instructed. Clearly working with PI must have been less confusing and difficult. This can be explained by its shorter duration and the fact that it does not comprise complicated stages with several tasks to complete before proceeding to the next step.

To sum up, we can state that the completion of the tasks was conducted in line with the instructions with some exceptions in the case of both methods. The students' work and cooperation were not limited or hindered by the possibilities of the online sphere as they managed to replace the traditional equipment used in on-site learning, such as paper, flip-chart or prototypes with online tools. The fact that the interviewees had problems with understanding the task and had difficulties with some of the phases, yet managed to complete the assignments as instructed and expected means that their problem-solving skills (Dolak et al., 2013) were also challenged.

As far as critical thinking is concerned, it was mainly needed in the case of PI activities. It was particularly required when answering the questions based on the reading or listening materials individually and during group discussions - when the students had to reconsider their choice or convince their fellow students about the correct answer, (as revealed during the interviews). Last but not least, the important peer-learning element of the PI activities during the breakout-room sessions was also present even though the students sometimes could not come to an agreement.

Final outcomes – products and results

Regarding DT, with one exception, all the groups showed signs of efficient and intensive cooperation. In addition, 23 final products out of 28 revealed creativity, and only five could be considered average in terms of relevance and creativity.

Concerning 'Peer Instruction (PI), all of the second round scores (altogether 22) were higher than in the first round which demonstrates efficient teamwork, peer learning and intensive communication during the break-out-room-question discussions.

In conclusion, it can be assumed that DT can foster creativity regardless of the type of learning environment, i.e. whether offline or online, as the majority of the final products developed by the students could be considered creative and relevant concerning the specifics of their regions (Luka, 2014). Also, we might assume that both methods can successfully enhance cooperation and communication between the team members (Dolak et al., 2013; Henriksen et al., 2017; Luka, 2014; Retna, 2016; Sándorová et al., 2020; Schell & Butler, 2018). However, it should be noted that in the case of DT it can be hindered by weaker or inactive students as it is more demanding in terms of the active participation of each member and their creativity than the PI activity.

Students' opinions and motivation

In terms of the students' opinions about the methods, in regard to DT, most of the students (nine out of 14) considered the task rather challenging. One of them even added that she would not have been able to do it on her own, so appreciated why they had to work in teams. Three of them were enthusiastic about the task; they liked it very much. One student claimed that she learnt a lot from this activity and her teammates in a new, unusual and fascinating way. The remaining students said they enjoyed the task as it was something different and creative that they had never done before. None of them said that they did not like the task or had any negative comments.

Concerning PI, thirteen out of fourteen students were positive about the activity. They liked it and thought that it was a perfect solution, especially in the online sphere, or that it was fun, and enriching, and still remembered the things they dealt with. It did not appeal to one student, though; arguing that the texts were not interesting to her. Another student mentioned that the only thing she did not like about it was that there was only one correct answer and that they could not click on more options.

In comparison, we could say that even though students praised the unusual, new way of learning in terms of both methods, they liked the PI activities more due to their less demanding features. Nevertheless, the results of the questionnaire analysis revealed some differences in favour of DT.

Students could give their answers using a four-point Likert scale, where *value 1* - meant a strong consensus with the statement that the given methods, (i.e., PI and DT), were engaging and motivating to arouse interest in the English language and the given topic; whereas, v*alue 4* - referred to a strong disagreement with this statement.

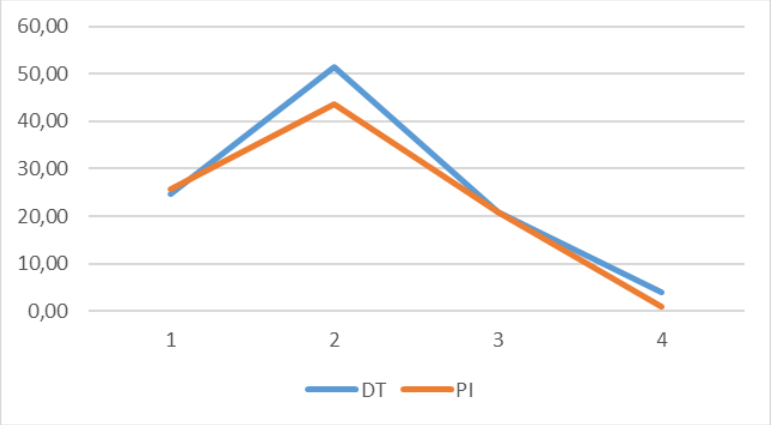


Figure 3: The impact of DT and PI on tourism undergraduates' motivation

The majority of the respondents in terms of both methods "agreed absolutely" or "agreed rather than disagreed" with the above-mentioned statement (see Figure 4). Yet, there is a slight difference between their perceptions of the two methods in question: DT was considered to be motivating according to 76, 24% of the participants, while in the case of PI it was 69,30 %.

In conclusion, we might claim that the given methods, (i.e., PI and DT), were perceived as almost equally engaging and motivating to arouse interest in the English language and the given topic by most of the respondents, while the small differences detected in their perceptions of the two methods can probably be attributed to their level of proficiency, skills, personality or preferred learning style.

Challenges of using design thinking and peer instruction

Our third objective was to identify the challenges and problems of applying the methods in question online, which we investigated in three main areas: Understanding and the completion of the task, Technical issues and Other problems.

Challenges concerning the understanding and the completion of the task

Regarding DT, out of the 14 interview respondents the most challenging phase for seven of them was *brainstorming* (i.e. collecting ideas), while *prioritising* (classifying the ideas in the prioritisation grid) was mentioned by six students. Three interviewees identified *deciding* as the most demanding step, either because they argued a lot and could not agree on one idea or because they had too many ideas, and, therefore, it was difficult to choose. Three students also mentioned *prototyping*, for they wanted to create something unique or struggled with composing the text to make it short but concise and intriguing. Finally, the last step, i.e., *presenting* the prototype – product, was mentioned only by one student as the most challenging part of the process because he had to practice it a lot due to his poor language skills.

If we compare these findings with the results of the research on applying DT in a traditional classroom setting in 2018 (Sándorová et al., 2020), we can see that there is a difference in terms of the perception of difficulty around the particular stages. In 2018 students identified the phase of *Prototyping* and *Deciding* on the idea/s as the most challenging phases. The probable reason for this is that brainstorming and prioritising requires the most intense teamwork and effective communication which, despite the function of the break-out rooms, is still less efficient in an online environment than in the case of face-to-face communication. On the other hand, prototyping the ideas in the form of promotional descriptions of the tourism products might have been far easier than using the classic DT materials, such as plasticine, Lego, drinking straws, etc.

In respect of PI, most interviewees (ten out of 14) confessed that at first, they did not understand what they were supposed to do, how the website worked or what it was about. However, having answered the first question, it became clear. One student even said that it was stressful for him at the beginning. Moreover, three students claimed that because the reading material focused on sustainability it was difficult as it was too long and full of unknown terms.

If we compare the two methods, it is obvious that during the PI activities, students faced the biggest challenge, i.e. understanding the instruction and the unknown, unusual way of learning, at the beginning of the task. However, in the case of DT, students experienced difficulties, similar to the findings of the research on applying DT in a traditional classroom setting in 2018, throughout the whole activity. This was due to the complexity of the task, as well as probably due to their level of language skills, personalities or other preferences (Sándorová et al., 2020).

Technical and cooperation issues

As mentioned earlier, 'Design Thinking' (DT) was used in five lessons and technical issues occurred five times, while 'Peer Instruction' (PI) was applied in seven lessons and the number of technical problems was only three. With both methods, based on the results of the observation and field notes during the action research, these issues related to disconnection from the Microsoft Teams collaboration tool meeting - mainly due to poor Internet connection (and re-joining the lesson) or drop-out from break-out rooms. In addition, in terms of PI, one of the three issues referred to is using www.polleverywhere.com website. From a technical point of view, therefore, it could be assumed that applying PI in online lessons causes fewer technical problems than DT because students spend far less time in break-out rooms.

The aforementioned assumption was also supported by the interviewees' opinions. One of them mentioned technical issues during the prototyping phase since they had problems adding their promotion to the padlet. However, regarding PI, almost all the students claimed that they had no problems with the activity and the webpage. Also, from a technical point of view, the website was easy to use and worked well. Hence, it may be assumed that interviewed students also found the PI activities less demanding and more hassle-free in terms of technical issues.

Nevertheless, the findings of the questionnaire do not entirely reflect the assumption that DT was more problematic to use. The participants could express their opinion on a four-point Likert scale, where *value 1* meant a strong consensus with the statement that the given methods, (i.e., PI and DT), were undemanding and easy to use in terms of cooperation and technical issues, while *value 4* referred to a strong disagreement with this statement.

As demonstrated in Figure 4, most of the tourism undergraduates (85,15%) agreed absolutely or agreed rather than disagreed that DT was undemanding and easy to use both in terms of teamwork and technical issues.

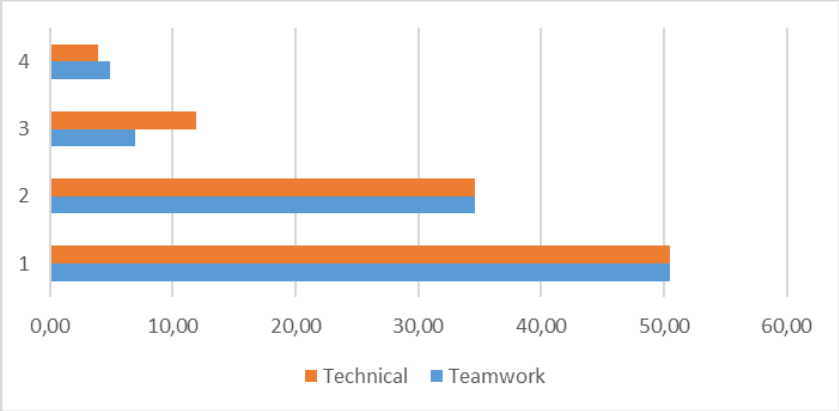


Figure 4: The Demands of DT in terms of cooperation and technical issues

Very similar and positive answers were given regarding PI since 84,16% of the respondents found it easy to use from the point of view of both teamwork and technical issues (Figure 5).

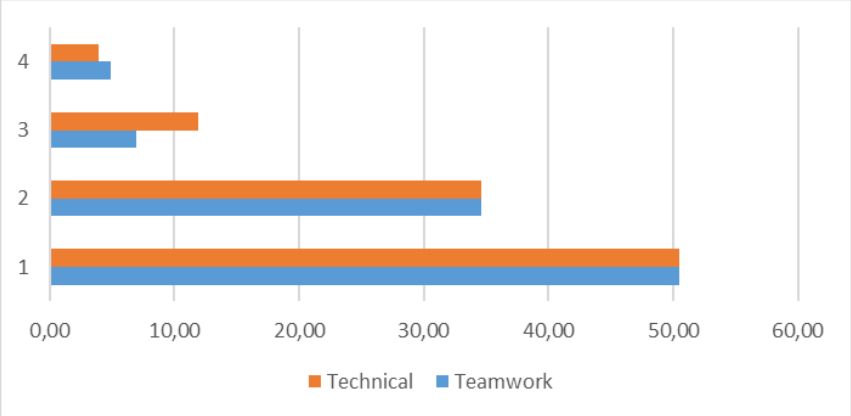


Figure 5: The demands of PI in terms of cooperation and technical issues

In conclusion, most of the students considered the given methods to be undemanding and easy to use, almost to an equal extent, both in terms of technical issues and teamwork. So, it would seem that the technical issues that occurred during the lessons, especially, in terms of break-out room drop-outs during the DT activities, were not detected by the students as problems and hence can be regarded as negligible.

Other problems

With regard to DT, based on the results of the observation and field notes during the action research, other problems involved misunderstanding the task by one group in the 'Business English 2' course and, therefore, losing some time in the next lesson (since they were asked to redo and present it again). The interviewee who was a member of the given group explained that two other teammates were missing at the beginning of the lesson, and those who were present misunderstood the task, so that was the reason they did not complete it as expected.

The only problem (other than technical ones) concerning PI was that one of the questions seemed to be too tricky or perhaps was not presented very clearly. In one of the lessons, only 12% answered the question correctly in the first round; (although, in the second round, 84% of the students chose the correct answer in the given group). However, this could also have occurred due to the fact that the given lesson was attended mainly by students with lower proficiency in the English language.

Hence, it seems that for both methods clear instructions and questions are key factors in the successful completion of the tasks. Also, as stressed by Sándorová et al. (2020), the successful application of both methods may also be hindered by students' low language proficiency. However, it is worth mentioning that in comparison with the given investigation carried out in a classroom setting, the issue of time pressure, highlighted by Sándorová et al. (2020) in terms of DT, occurred neither during the action research nor in the interviewed students' opinions.

Discussion

Research question No. 1: Which language skills are developed most intensively by applying the methods in question online? Can 'Design Thinking' (DT) and 'Peer Instruction' (PI) enhance communication in the English language even in a purely online environment?

Due to their collaborative and interactive features, both methods can be regarded as effective in terms of developing students' foreign language skills, as claimed by several researchers (Dumont, 2013; Sándorová, 2018; Sándorová et al., 2020; Zou & Xie, 2019), even in an online environment.

Nevertheless, we can observe some differences between the methods in terms of the intensity and the proportion of productive and receptive skill development, since DT can more efficiently foster productive, i.e., speaking and writing skills, whereas PI can rather contribute to the improvement of receptive skills, i.e., reading and listening but also speaking skills.

Furthermore, as opposed to the findings of Sándorová et al. (2020), none of the methods made the students use English as effectively as in traditional classroom teaching. The reason for this is that during the group discussion within the break-out rooms when the teacher was not present, students used a kind of "mixed language" (English-Slovak or English-Hungarian or English-Ukrainian). Even though, after noticing their teacher in the group or based upon the teacher's request, some of them switched to English, it would be naïve to think that they did not go back to their mixed-language or even first-language to discuss and complete the tasks. Those who spoke only in English were stronger students

with a higher level of English language proficiency, i.e. B2 or C1, according to the CEFR (Council of Europe, 2001).

It seems that with weaker students (B1 or lower levels), it is unrealistic to expect purely English conversation. This can be one of the main drawbacks of applying DT and PI online, as the use of first language or mixed-language usage cannot be eliminated to such an extent as in the case of a traditional classroom environment. In this scenario students dare to use their mother tongue less often, mainly when the teacher continuously checks them.

Nevertheless, the benefits of intensive group discussions, even in a mixed language mode are undisputable, not only in the still ongoing and unpredictable COVID-19 pandemic but also in the future of (online) education. This is because the given task cannot or can hardly be done without face-to-face spoken communication, something that the members of the Zen generation practiced less and less even before the COVID-19 era. The consequences of this have manifested themselves in the form of social and speaking anxiety, isolation and depression and have been further strengthened due to the pandemic.

Also, from a linguo-didactic point of view, mixed-language communication cannot be regarded as something ultimately "evil" (especially with students of diverse language proficiency ranging from A2 to C1) since it is also one of the specifics of the CLIL (Content and Language Integrated Learning) approach used successfully in different subjects to enhance both content and language knowledge (Kováčiková, 2020; Pokrivčáková et al., 2015; Yang, 2016).

It means that even a mixed-language discussion can contribute to improving linguistic skills, even though it is not the primary purpose of language courses. Therefore, it may be concluded that despite the mixed-language character of the group discussions, both DT and PI can contribute to developing all language skills and communication in general, even in a purely online environment.

Research question No. 2: Can 'Design Thinking' (DT) and 'Peer Instruction' (PI) enhance teamwork, peer-learning and motivation, develop creative and critical thinking as well as problem-solving skills in a purely online environment?

Based on the almost hundred per cent completion of the tasks as expected, the students' final products and results, as well as their opinions and increased motivation, we can claim that both methods can fulfil their functions in terms of enhancing motivation and teamwork. Both methods can also develop problem-solving skills and creativity in the case of DT (Henriksen et al., 2017; Luka, 2014; Retna, 2016; Sándorová et al., 2020) or peer-learning and critical thinking in the case of PI, (Dolak et al., 2013; Schell & Butler, 2018). This applies to online lessons almost equally successfully as in the case of traditional on-site teaching.

Thus, it can be concluded that both methods indeed can create stimulating "virtual social environments for students to become active distance learners" in the case of distance education (Karatas & Tuncer, 2020), which, according to Hsu (2018), today's students thrive on.

Research question No. 3: What are the challenges and difficulties of applying the methods in question online, and what recommendations can be given for the educational practice?

The biggest challenge during the PI activities referred to understanding the instruction and the unknown, unusual way of learning, at the beginning of the task. In the case of DT activities, students experienced difficulties throughout the whole process but especially in the phases of brainstorming and prioritising, due to the complexity of the task as well

as their level of language skills, personalities or other preferences (Sándorová et al., 2020). However, the identified difficulties might be gradually reduced through regular implementation of DT, PI or other teamwork-including activities, which may also be beneficial in terms of reducing cooperation issues.

The second problem which occurred most often concerned technical issues, especially in terms of break-out room drop-outs during the DT activities. However, most of the students agreed that the given methods were still undemanding and easy to use and hence, these issues can be regarded as negligible. Furthermore, concerning the problems with using the www.padlet.com and www.polleverywhere.com (or any other) websites, (even though the links were tried before the lesson by one of the teacher's colleagues), in the future, prior to their application, they should be tested using different browsers and more people, - or checked right after the instructions to ensure that they work well for all the students.

Another negative aspect of the investigated online DT and PI lessons can be linked to misunderstanding or not understanding the task. Therefore, even though in terms of both methods, tourism undergraduates completed the tasks as expected and instructed, it is vital to ensure that the students are doing what they are supposed to do during the whole activity. In respect of online teaching in future, it would be advisable to ask a few students to explain the task in their own words to check for understanding.

In terms of PI, a few negative comments also appeared concerning the texts used in the activity and the demanding nature of the questions. Thus, similar to its offline application, the materials should be selected and the questions created very carefully, mainly in terms of the students' proficiency level, i.e., neither be very easy nor too difficult. Therefore, other colleagues might be consulted to avoid these two extremes.

Concerning overall language skill development, especially in the case of PI, several improvements could be introduced. For example, writing could be added as a follow-up assignment. Listening skills could also be nurtured more intensively, mainly in introductory phases, through listening materials instead of reading texts in PI. In the case of DT, an improvement could be to introduce the problem to be addressed before the phase of empathising/ brainstorming is conducted through videos or podcasts.

Regarding the limitations of the present study, since it was conducted online, the researcher could not observe the whole lesson in person. Regarding certain issues, such as the language used by the students in the break-out rooms or the way in which they completed the tasks, she had to rely merely on the interviewees' answers and opinions. Nevertheless, since the interview process took place at the end of the semester (after the final evaluation had been uploaded) they did not have any reasons to please the interviewer or withhold anything from her. The respondents also knew that it was their last lesson with the given teacher (she was about to move to another department for the next semester), and they were also particularly asked to be honest.

Finally, implications for further research activities are twofold. Firstly, in the field of 'English for Specific Purposes' (ESP), longitudinal studies, applying the method of experiment and testing focused on the impact of the given methods on learners' foreign language skills might be considered. Secondly, in 'English as a Foreign Language' (EFL) teacher training courses, action research using the method of PI might be beneficial in terms of enriching students' learning experience as well as developing both their critical thinking and didactic skills.

Conclusion

Despite some technical and cooperation issues and the students' mixed-language communication, it can be concluded that both 'Design Thinking' (DT) and 'Peer

Instruction' (PI) can be almost equally well-applied in a purely online environment as in a face-to-face classroom setting. Both methods can be beneficial in terms of developing foreign language and problem-solving skills, creative or critical thinking, as well as enhancing teamwork, peer-learning and motivation.

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References

Beták, N. (2014). *Interaktívne simulácie - nová technológia vzdelávania (Doctoral dissertation).* Nitra: UKF.

Brown, H. D. (2014). *Principles of language learning and teaching*. White Plains, NY: Pearson ESL.

Bruff, Derek. (2009). *Teaching with Classroom Response Systems: Creating Active Learning Environments*. San Francisco: Jossey-Bass.

Brown, Ch. et al. (2018). Sport management internships: Recommendations for improving upon experiential learning. *Journal of Hospitality, Leisure, Sport & Tourism Education*, 22, 75-81. Available on: https://doi.org/10.1016/j.jhlste.2018.02.001

Çeviker-Çinar, G. et al. (2017). Design Thinking: A New Road Map In Business Education. *The Design Journal*, 20(1), 977-987. Available on: https://doi.org/10.1080/14606925.2017.1353042

Council of Europe. (2001). *A Common European Framework of Reference for Language Learning, Teaching, Assessment*. Available on: http://www.coe.int/t/dg4/linguistic/Source/Framework_EN.pdf

Cloudia Ho, Y. Y. (2020). Communicative language teaching and English as a foreign language undergraduates' communicative competence in Tourism English. *Journal of Hospitality, Leisure, Sport & Tourism Education*, 27, 100271. Available on: https://doi.org/10.1016/j.jhlste.2020.100271

Crouch, C. H., & Mazur, E. (2001). Peer Instruction: Ten Years of Experience and Results. *American Journal of Physics*, 69(9), 970–977. Available on: https://doi.org/10.1119/1.1374249

Design Thinking. Urban Montessori Charter School in Oakland. Available on: https://www.urbanmontessori.org/design_thinking

Dewey, J. (1938). *Experience and education*. New York: Simon and Schuster.

Dolak, F. et al. (2013). *Design thinking and Design Science Research*. St. Gallen: University of St. Gallen. Available on: https://www.alexandria.unisg.ch/223547/1/Design%2520Thinking%2520and%2520Design%2520Science%2520Research_final%2520Format.pdf

Dumont, A. (2013). Peer instruction to learn English. *Proceedings of the 6th International Conference ICT for language learning.* Available on: https://conference.pixel-online.net/conferences/ICT4LL2013/common/download/Paper_pdf/178-ITL34-FP-Dumont-ICT2013.pdf

Hasso Plattner Institute of Design. (2022). *An introduction to design thinking process guide.* Available on: https://web.stanford.edu/~mshanks/MichaelShanks/files/509554.pdf

Henriksen, D. et al. (2017). Design thinking: A creative approach to educational problems of practice. *Thinking Skills and Creativity*, 26, 140-153. Available on: https://doi.org/10.1016/j.tsc.2017.10.001

Hrdličková, Z. 2021. Improving students' language skills in business English course: experimental study. *Advanced Education*. 17, 46-56. DOI: 10.20535/2410-8286.226493.

Karatas,T. Z., & Tuncer, H. (2020). Sustaining Language Skills Development of PreService EFL Teachers despite the COVID-19 Interruption: A Case of Emergency Distance Education. *Sustainability*, 12(8188). Available on: https://doi.org/10.3390/su12198188

Knight, J. K., & Brame, C. J. (2018). Peer Instruction. *CBE—Life Sciences Education*, 17(2), fe5. Available on: https://doi.org/10.1187/cbe.18-02-0025

Kolb, D. A. (1984). *Experiential Learning: Experience as the Source of Learning and Development*. Prentice-Hall Inc., New Jersey.

Kováčiková, E. (2020). *English for Specific Purposes in Higher Education through Content and Language Integrated Learning*. Newcastle upon Tyne: Cambridge Scholars Publishing.

Larsen-Freeman, D., & Anderson, M. (2011). *Techniques and principles in language teaching*. New York, NY: Oxford University Press.

Luka, I. (2020). Design Thinking in Pedagogy*. Journal of Education Culture and Society,* 2, 63-74. Available on: https://doi.org/10.15503/jecs20142.63.74

Mazur, E. (1997). *Peer Instruction: A User's Manual*. New Jersey, Prentice Hall.

Miettinen, R. (2000). The concept of experiential learning and John Dewey's theory of reflective thought and action. *International Journal of Lifelong Education*, 19(1), 54-72. Available on: https://doi.org/10.1080/026013700293458

Pokrivčáková, S. et al. (2015). *CLIL in Foreign Language Education: e-textbook for foreign language teachers*. Nitra: Constantine the Philosopher University.

Rauth, I. et al. (2010). Design Thinking: An Educational Model towards Creative Confidence. *Proceedings of the 1st International Conference on Design Creativity (ICDC2010)*, Kobe.

Retna, K. S. (2015). Thinking about "design thinking": a study of teacher experiences. *Asia Pacific Journal of Education*, 36(S1), 5-19. Available on: https://doi.org/10.1080/02188791.2015.1005049

Reeves, T. C. (2012). *Interactive Learning Techniques. Encyclopedia of the Sciences of Learning*, 1610 – 1611. Available on: https://doi.org/10.1007/978-1-4419-1428-6_331

Richards, J. C. (2006). *Communicative language teaching today*. New York, NY: Cambridge University Press.

Sándorová, Z. (2017). *Foreign Language Coursebooks in Developing Intercultural Communicative Competence*. Nitra: UKF.

Sándorová, Z. (2018). Applying the Method of Design Thinking in Teaching ESP in the Context of Creative Tourism. *Proceedings of the 11th Innovation in Language Learning International Conference* (pp. 297-300). Bologna: Filodiritto Editore.

Sándorová, Z. et al. (2020). Design thinking - A revolutionary new approach in tourism education? *Journal of hospitality, leisure, sport & tourism education*, 26, 100238. Available on: https://doi.org/10.1016/j.jhlste.2019.100238

Schell, J. A., & Butler, A. C. (2018). Insights from the Science of Learning Can Inform Evidence-Based Implementation of Peer Instruction. *Frontiers in Education*, 3. Available on: https://doi.org/10.3389/feduc.2018.00033

Scheer, A. et al. (2012). Transforming Constructivist Learning into Action: Design Thinking in education. *Design And Technology Education: An International Journal*, 17(3). Available on: https://ojs.lboro.ac.uk/DATE/article/view/1758

Tan, C. et al. (2014). Promoting spiritual ideals through design thinking in public schools. *International Journal of Children's Spirituality*, 17(1), 25-37. Available on: http://dx.doi.org/10.1080/13644362011.651714

Tullis, J. G., & Goldstone, R. L. (2020). Why Does Peer Instruction Benefit Student Learning?" *Cognitive Research: Principles and Implications*, 5(1). Available on: https://doi.org/10.1186/s41235-020-00218-5

Williams, M. K. (2017). John Dewey in the 21st century. *Journal of Inquiry & Action in Education*, 9(1), 91-102.

Yang, W. (2016). ESP vs. CLIL: a Coin of Two Sides or a Continuum of Two Extremes? *ESP Today*, 4(1), 43-68.

Zou, D. & Xie, H. (2019). Flipping an English writing class with technology-enhanced just-in-time teaching and peer instruction. *Interactive Learning Environments*, 27(8), 1127-1142. Available on: https://doi.org/10.1080/10494820.2018.1495654

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Appendices

APPENDIX 1: ACTION RESEARCH INSTRUMENT – THE LIST OF CRITERIA

Design thinking

1. The number of technical issues
2. The type of technical issues
3. Other problems
4. The number of reading skills usage
5. The duration of reading skills usage (minutes)
6. The number of listening skills usage
7. The duration of listening skills usage (minutes)
8. The number of writing skills usage
9. The duration of writing skills usage (minutes)
10. The number of speaking skills usage
11. The duration of speaking skills usage (minutes)
12. The language used when entering the room
13. The completion of the task as expected per group
14. The final product – showing signs of poor/inefficient or average or efficient/intensive teamwork
15. The final product – less/average/very creative

Peer instruction

1. The number of technical issues
2. The type of technical issues
3. Other problems
4. The number of reading skills usage
5. The duration of reading skills usage (minutes)
6. The number of listening skills usage
7. The duration of listening skills usage (minutes)
8. The number of writing skills usage
9. The duration of writing skills usage (minutes)
10. The number of speaking skills usage
11. The duration of speaking skills usage (minutes)
12. The language used when entering the room
13. The completion of the task as instructed per group
14. First-round results
15. Second-round results

APPENDIX 2: INTERVIEW RESEARCH INSTRUMENT – THE LIST OF QUESTIONS

1) How did you complete the DT task? (For example, did you follow all the instructions precisely, or did you make any modifications? If you modified the task, what did you do exactly?)
2) Which phase of the online DT activity was the most challenging for you and why?
3) What other problems did you encounter?
4) What language did you use when you were alone in the break-out rooms? (For example, only Slovak, only English, mixed language?)
5) What is your opinion about the activity/method?
6) How did you complete the PI task? (For example, did you answer the questions based on what you remembered, or did you look for the answers in the text?)
7) How did you carry out the group discussions of the questions? (For example, did all the members contribute to the discussion? Could you come to a compromise?)
8) What was the most challenging for you and why while working with the method of PI?
9) What other problems did you have while working with the method of PI?
10) What language did you use when you were alone in the break-out rooms? (For example, only Slovak, only English, mixed language?)
11) What is your opinion about the activity/method?

APPENDIX 3: QUESTIONNAIRE SURVEY – RESEARCH INSTRUMENT

1. In your opinion, the design thinking method that we used when creating gastro tourism products (brainstorming, prioritising, etc.) effectively developed the following skills:

Reading

Absolutely agree 1 2 3 4 Do not agree at all

Listening

Absolutely agree 1 2 3 4 Do not agree at all

Writing

Absolutely agree 1 2 3 4 Do not agree at all

Speaking

Absolutely agree 1 2 3 4 Do not agree at all

Language systems (grammar, vocabulary, pronunciation)

Absolutely agree 1 2 3 4 Do not agree at all

2. In your opinion, the design thinking method that we used when creating gastro tourism products (brainstorming, prioritising, etc.):

a) motivated you, aroused your interest in the English language and the given topic

Absolutely agree 1 2 3 4 Do not agree at all

b) was hassle-free and effective in terms of working in groups

Absolutely agree 1 2 3 4 Do not agree at all

c) was easy to use and hassle-free from a technical point of view

Absolutely agree 1 2 3 4 Do not agree at all

3. In your opinion, the method of Peer Instruction using the website https://www.polleverywhere.com effectively developed the following skills:

Reading

Absolutely agree 1 2 3 4 Do not agree at all

Listening

Absolutely agree 1 2 3 4 Do not agree at all

Writing

Absolutely agree 1 2 3 4 Do not agree at all

Speaking

Absolutely agree 1 2 3 4 Do not agree at all

Language systems (grammar, vocabulary, pronunciation)

Absolutely agree 1 2 3 4 Do not agree at all

4. In your opinion, the method of Peer Instruction using the website https://www.polleverywhere.com:

a) motivated you, aroused your interest in the English language and the given topic

Absolutely agree 1 2 3 4 Do not agree at all

b) was hassle-free and effective in terms of working in groups

Absolutely agree 1 2 3 4 Do not agree at all

c) was easy to use and hassle-free from a technical point of view

Absolutely agree 1 2 3 4 Do not agree at all