Technical university students' feedback on studying English online under the COVID-19

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Abstract

The paper reveals the results of the survey, carried out by non-linguistic students of the National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute". Special attention is devoted to comparative analysis of feedback from respondents studying English online at the Institute of Physics and Technology (IPT) and Instrumentation Engineering Faculty (IEF) under COVID-19. The actuality of the study is determined by the necessity of learning about technical students' experiences studying English online during the 2020–2021 academic year for educators to design effective online courses and strategies and adjust teaching practices accordingly. To achieve the aim, the following tasks were completed: technical, methodological and psychological aspects of studying English online during the 2020–2021 academic year under COVID-19, to use descriptive statistics for processing the obtained data. The results of the survey are analyzed, described and presented in the paper; recommendations are given. Overall, the respondents positively assessed their experience of studying English online under the COVID-19.

Keywords: Technical university; students' feedback; COVID-19; online learning; studying English

1. Introduction

The COVID-19 pandemic brought drastic changes to practically any aspect of people's lives all over the world. Strict regulations had to be followed in order to stop the disease from spreading rapidly. The necessity to provide social distancing became a threat to the quality of education. Face-to-face classes were replaced by remote ones conducted online, changing educational environments around the world. The closure of educational institutions was painful not only for educational authorities, teachers, and students, but for many more people, as it affected whole families. A rapid shift from brick to click, seminar to webinar raised a lot of questions to be answered (Ubaid-ullah, 2021). The research on the issue of teaching online during the pandemic is devoted mostly to technical, psychological, and methodological aspects (Adarkwah, 2021; Alba-Linero et al., 2020; Erdmann et al., 2021; Gokuladas & Baby Sam, 2020; Kimmel et al., 2020).

Technical issues became of utmost importance for many students and teachers, sharpening the problems that existed before the pandemic (Mathur & Singh, 2020).Svyrydova Providing the only way to continue teaching and learning, the very access to online education, technical issues disclosed the disparity between high-income and low-income countries. No devices, no internet access at home revealed the Digital Divide, which meant that millions of students were disconnected and their studying was disrupted (UNESCO, 2020). Even when students had internet access and devices, they lacked the necessary skills which ensured their active participation in online lessons.

Methodological issues related to what, how, and when it was better to teach in order to reach the goals of the language course, were also important, as online is a totally different environment compared to conventional. Therefore, adjusting the regular practices according to the quarantine restrictions and trying to maintain a continuous educational process, teachers had to use new methods related to planning and designing online courses, preparing students for learning English online, conducting a transparent and fair assessment, interacting effectively (Kimmel et al., 2020, p. 4). Teaching online was not what teachers of English usually did before the pandemic. However, it is considered a new reality impossible to deny and according to which teaching methods are chosen and exploited differently (Yucesoy-Ozkan et al., 2020, p. 51).

Psychological issues related to the difficulties to adapt to new reality, to communication online, which teachers and students had to do confined to their homes. The very thought of

impossibility to go anywhere, to have choices about the ways to study and spend their free time was difficult to accept for both, teachers and students. Social distancing in public places, looking at black squares instead of human faces during video conferences, practically unlimited screen time certainly affect the mental health of students (Erdmann et al., 2021, p. 23).

The necessity of reflecting on students' experience and their learning outcomes became the precondition for research in the area of teaching online (Camilleri, 2021, p. 4). The issues of compatibility and readiness of students to study online, factors that motivate and hinder remote learning, strategies for the effective implementation of online learning at higher education institutions are of vital importance (Khalil Awan, 2021). Researchers focused on the evaluation of online courses (Lukianenko & Vadaska, 2020), psychological and operational aspects of online education (Gokuladas & Baby Sam, 2020), obstacles to effective learning online (Aslam, 2021; Chang, 2020; Dogar et al., 2020; Kimmel et al., 2020), supervision and evaluation of online learning experience (Adarkwah, 2021, p. 1, 2). Indeed, there are some important issues that are still uncovered by research. Therefore, the actuality of the study related to feedback of technical students was determined by the necessity of learning what students of a technical university thought about their experience of studying English online for educators to develop more effective strategies, adjust teaching practices to students' needs, and plan the language course accordingly.

The article aims to conduct a comparative analysis of feedback from Ukrainian technical university students studying English online at the Institute of Physics and Technology (IPT) and the Instrumentation Engineering Faculty (IEF) under the COVID-19. To achieve this aim, the following tasks are to be completed: to establish technical, psychological, and methodological aspects of studying English online during the 2020–2021 academic year under COVID-19, to exploit descriptive statistics for processing the obtained data, and give recommendations for teachers of English.

In the study, we propose two hypotheses:

Hypothesis A: technical university students had mostly positive experiences learning English online during the 2020–2021 academic year.

Hypothesis B: technical university students had mostly negative experiences learning English online during the 2020–2021 academic year.

2. Materials and methods

Research design. A mixed-method research design was used in the study: quantitative and qualitative data were obtained from the surveys completed by students of the Institute of Physics and Technology (IPT) and the Instrumentation Engineering Faculty (IEF) of the National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute". The students were instructed by the teachers who worked at the Department of English for Engineering. Qualitative data was received through feedback via Zoom sessions and in written form.

Participants. This study was conducted at the National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute". The online mode of studying was introduced in March 2020 in Ukraine; therefore, technical university students had no regular face-to-face classes in the 2020-2021 academic year. The survey was completed by Institute of Physics and Technology (IPT) students (N = 25) and Instrumentation Engineering Faculty (IEF) students (N = 43) in the first, second, and third years of study in June 2021. About 700 students' responses in total were analyzed. The participants had different language proficiency levels, from intermediate to advanced. This study is ethical because all respondents volunteered to take part in the survey and gave their consent.

Instruments and procedure. The survey used a Likert scale (prompt 1: "never" / "practically never" / "from time to time" / "often" / "always"; prompts 2-8: "strongly agree" / "agree" / "neutral" / "disagree" / "strongly disagree"; prompt 9: "excellent" / "good" / "quite good" / "could be worse"; prompt 10 provided multiple responses) (See Appendix A). The researchers exploited descriptive statistics; they calculated the median of each item, i.e., what most respondents believed, and the interquartile range of each item, i.e., how strongly respondents agreed with each other. The median (Mdn) was used to measure central tendency, the inter-quartile range (IQR) showed the spread of the responses. The survey covered technical, psychological, and methodological aspects of studying English online during the 2020–2021 academic year under COVID-19. In addition, there was an opportunity for the respondents to leave additional comments at the end of the survey in Google Form.

3. Results and discussion

The findings of the study showed that most IPT and IEF students indicated agreement with prompt No. 1 (See Appendix A), that they practically never experienced technical problems (Mdn =

2, IQR =1). It could be partially explained by the fact that considering the negative experience at the beginning of the quarantine in March 2021, there was an official requirement for students to have the necessary equipment and internet access to ensure studying online at the beginning of the 2020-2021 academic year. These results are consistent with the previous studies at a Spanish university, which showed that most students did not have technical problems (Alba-Linero et al., 2020, p. 85). However, some Spanish students complained of poor internet connectivity (Alba-Linero et al., 2020, p. 86). Other difficulties included the high cost of internet data bundles, technical problems with online platforms, electricity supply, lack of IT skills, and limited ICT tools (Adarkwah, 2021, p. 1).

Responding to prompt No. 2 about studying from home, IPT students strongly agreed (Mdn = 1, IQR = 1), while IEF students agreed (Mdn = 1, IQR = 1.5) with that statement (See Appendix A). Some students mentioned in their comments that they managed to study while working; some stayed at the dormitories in Kyiv, not in their hometowns. According to the responses, studying online was comfortable (prompt No. 3), as most IPT and IEF students agreed with that statement (Mdn = 2, IQR =1). They provided some reasons for such a choice: saving traveling time, cutting expenses on food and accommodation, focusing on the subjects that were important to them. The responses showed that students had enough free time to find a job, new hobbies, and take extra courses online (prompt No. 4, see Appendix A), as most IPT and IEF students agreed with that statement (Mdn = 2, IQR =1). Students explained in their comments that they discovered some free online courses during the pandemic, and they decided to use that opportunity to complete one or even more courses on different subjects. Besides focusing on their specialty, students communicated in English and practiced using it in real-life situations. It is important to know that all the students experienced studying online in spring 2020 (March, April, May). Some attended additional classes online in the summer, got part-time jobs, and, in spite of all the restrictions of the quarantine, managed to study and work. It was predictable that, because of the pandemic, there would not be face-to-face classes in the 2020-2021 academic year, and students had already accepted that adjusting to the new reality.

Technical university students were familiar with cooperative learning before the quarantine as teachers used various interaction patterns; learning online, they got used to the breakout rooms of a videoconferencing platform called Zoom. Most IPT and IEF students agreed with prompt No. 5 (See Appendix A) about enjoying work in pairs or groups (Mdn = 2, IQR = 1). The experience

related to interaction patterns was closely related to interactive activities students were engaged in: before the pandemic, IPT and IEF students also played games, completed quizzes, and did role-plays at the English lessons working individually, in pairs, small groups, or whole class. That is why some researchers indicated that familiar activities made communication online easier: gamification and collaboration fostered online learning acceptance by teachers and students (Adarkwah, 2021, p. 1, 2); games, quizzes, and role-plays created a relaxing atmosphere at the English lesson (Chugai, 2020; Stavytska et al., 2021). According to another research, the introduction of gamification tools facilitated meaningful learning, having a positive impact on the professional motivation of the teacher and the academic performance of students as well (Gómez-Ejerique, & López-Cantos, 2019, p. 67). Overall, the results of our research confirmed that most students of both faculties enjoyed games and quizzes like Quizlet, Kahoot, Wordwall, in their English class. It could be explained by the fact that engaging in interactive communication lowered the affective filter that was caused by negative emotions, and, consequently, enhanced students' ability to use English freely (Larsen-Freeman & Marti Anderson, 2011, p. 294). However, a comparison of the results showed though that IPT students were more enthusiastic about gamification responding to prompt No. 6 (See Appendix A), indicating "strongly agree" (Mdn = 1, IQR = 1), while IEF students chose "agree" and their opinions were somewhat polarized (Mdn = 2, IQR = 2) which could be explained by individual differences.

Responding to prompt No. 7 about assessment (See Appendix A), most IPT and IEF students agreed that tests were easier to complete online than face-to-face (Mdn = 2, IQR =1). Students took quick Classtime tests aimed at checking the material of the previous lessons or home assignments. Unfortunately, taking tests online was attractive for some students because of the opportunity to cheat and get more points (Chugai, 2021, p. 111). These results differ from those provided by another study when students of a Spanish university did not indicate any changes resulting in improvement or worsening related to learning online (Erdmann et.al., 2021, p. 33). In fact, some universities practiced open-book examinations (OBE) when students could use any supplementary materials in order to complete a test and learn something new (Ubaid-Ullah, 2021, p. 1).

However, it was not a usual way of conducting tests or examinations at technical universities in Ukraine. Still, teachers set time limits, created a friendly atmosphere, conducted error correction after revealing the answers and provided feedback, aiming at motivating students to be honest and not be afraid of making mistakes. Detailed feedback on students' performance was of vital

importance for motivating and encouraging them to take an active position, to be responsible for their progress (Nikolaeva, Korol, 2021). At the same time, some students were aware of the possibility to cheat when taking tests online. Using alternative assessment methods such as presentations, peer-review, self-assessment, or rubric-based projects could encourage students to act in accordance with academic integrity principles.

According to the feedback for prompt No. 8 (See Appendix A), most IPT and IEF students thought the English lessons were beneficial for them (Mdn = 2, IQR =1). Assessing their overall experience learning English online in response to prompt No. 9, most IPT and IEF students thought it was good, but at the same time, IPT students were more decisive about that (Mdn = 2, IQR = 0) than IEF students (Mdn = 2, IQR = 1).

In general, the responses of technical university students to the prompts of the survey were quite similar (Mdn = 2, IQR = 1), just the ones about working in pairs or groups were slightly different (Mdn = 2, IQR =1.25). The results of the survey showed that while studying English online, non-linguistic students practically never experienced technical problems. Furthermore, most studied from home, which was comfortable for them. The students had free time to find new hobbies, get a job, or do extra courses online. Most respondents enjoyed working in pairs or groups, as well as interactive activities like games, quizzes, and role-plays. Most students claimed that online tests were easier than face-to-face. The respondents considered English lessons online beneficial for them and assessed their overall experience as good, which is in keeping with the results of another survey according to which students of a Spanish university were content with new digitalized learning environments within their institutions (Erdmann et.al., 2021, p. 34). The results presented here do not support the findings of Adarkwah (2021), who claimed that in spite of considering the adoption of online learning as the best way to continue education during the pandemic, students concluded that the online instruction was ineffective. It is worth mentioning that the results obtained in our research were proved by regular tests and the final module tests as well.

Responding to prompt No. 10 (See Appendix A) about the ways of looking for help with English assignments, respondents could choose several options (see Table 1).

Table 1. Responses about ways of looking for help with English assignments (prompt 10)

Options	Students IEF, %	Students IPT, %	Difference, %
Ask a teacher	9	23	-14
Ask a peer	15	17	-2
Google it	44	23	+21
Use the context	9	23	-14
All above	23	14	+9

IEF students chose "Google it" first of all (44% out of all the choices they had), while IPT students most frequently chose three options: "ask a teacher", "Google it", and "use the context" (23% each). The average result for technical university students was the choice "Google it", which was predictable. In fact, even in face-to-face classes before the pandemic, some students could not resist the temptation to "Google it" before asking a peer, teacher or using the context.

To conclude, in this research the responses of the two groups of students to most prompts of the survey were quite similar. However, the responses of students from a Spanish university differed depending on the study branches, which could be explained by familiarity with the use of technology and the level of social interaction in these faculties. In addition, some teachers overloaded students by assigning projects and essays for homework causing a negative attitude towards studying online (Erdmann et.al., 2021, p. 32).

A few students in our research responded to open-ended prompts and provided additional comments about English lessons. This activity was not obligatory, and students were reluctant to spend more time completing the survey. IPT students wrote that they especially enjoyed team games, sessions with native speakers, and solving puzzles. However, students felt a lack of face-to-face communication. Students of a Spanish university also wrote about mental and psychological risks triggered by social isolation (Erdmann et.al., 2021, p. 33). In addition, it was unusual for some IPT students to speak English only, and it took some time to get used to it (Chugai, 2021, p. 112). Speaking their native language in a foreign language class is a contentious issue. If a native language is often used, students do not consider English appropriate for real-life situations and find it strange when a teacher speaks English before, during, and after the class. In contrast, when all the participants in communication speak English, it is considered authentic, i.e., the language used in a real context (Larsen-Freeman & Marti Anderson, 2011, p. 294). IEF students also provided positive

comments and described their lessons as informative, engaging, and useful. They mentioned games and tests as the most interesting activities, described the personality of a teacher, and were appreciative of such a positive experience. The students also used emoticons to indicate their positive feedback. To conclude, hypothesis A that technical university students had mostly positive experiences learning English online during the 2020–2021 academic year was proved to be true.

Our recommendation concerning technical issues is to make students aware of the requirements to have the necessary equipment to ensure studying online; methodological and psychological issues could be resolved by implementing cooperative learning, various interaction patterns possible by means of breakout rooms, games, quizzes, online tests, alternative assessment.

4. Limitations to the study

Though the study provided valuable information on technical university students' feedback on learning English online during COVID-19, there were limitations to the study. The study was carried out during the second semester of the 2020–2021 academic year. However, more data is needed to draw conclusions about the effectiveness of online learning and its long-term consequences. Additionally, the number of IPT and IEF students was not equal. The next steps when conducting another research project will exclude these limitations.

5. Conclusions

A comparative analysis of the feedback of Ukrainian technical university students studying English online at the Institute of Physics and Technology (IPT) and Instrumentation Engineering Faculty (IEF) showed that while the responses to the prompts of the survey were quite similar, the responses about interaction patterns were slightly different. The results of the survey showed that while studying English online, technical university students practically never experienced technical problems studying from home. For most, studying online was comfortable: they had free time to find new hobbies, get a job, or do extra courses online. Most respondents enjoyed working in pairs or groups, as well as interactive activities like games, quizzes, role-plays, and online tests. The respondents considered English lessons online beneficial for them and assessed their overall experience positively. The recommendations for teachers of English are related to implementing cooperative learning, various interaction patterns, games, alternative assessment.

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Appendix

Appendix A

The survey for students

"Studying English online under the COVID-19"

Prompt 1. I experienced technical problems ("never" / "practically never" / "from time to time" / "often" / "always");

Prompt 2. I studied from home ("strongly agree" / "agree" / "neutral" / "disagree" / "strongly disagree");

Prompt 3. Studying online was comfortable for me ("strongly agree" / "agree" / "neutral" / "disagree" / "strongly disagree");

Prompt 4. I had free time to find new hobbies / job /do extra courses online ("strongly agree" / "agree" / "neutral" / "disagree" / "strongly disagree");

Prompt 5. I enjoyed working in groups/pairs ("strongly agree" / "agree" / "neutral" / "disagree" / "strongly disagree");

Prompt 6. I enjoyed games / quizzes / role-plays at the lessons ("strongly agree" / "agree" / "neutral" / "disagree" / "strongly disagree");

Prompt 7. Tests are easier to complete online than F2F ("strongly agree" / "agree" / "neutral" / "disagree" / "strongly disagree");

Prompt 8. My English lessons were beneficial for me ("strongly agree" / "agree" / "neutral" / "disagree" / "strongly disagree");

Prompt 9. I assess my overall experience learning English online as ("excellent" / "good" / "quite good" / "could be worse");

Prompt 10. When I needed help with my English assignments ("ask a teacher" / "ask a peer" / "Google it" / "use the context" / "all above");

Provide additional comments on your experience studying English online (open).

(Self-developed)