E-LEARNING IN THE CZECH REPUBLIC DURING THE SECOND YEAR OF PANDEMIC COVID-19

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Abstract: The aim of this research is to map the situation of online education in the Czech Republic and compare it with the European one. The research was conducted based on data provided by the Czech Statistical Office and Eurostat. The evaluated data were subsequently compared with findings from the literature search. The findings show that the usage of online courses is 20.8% more than the average in the EU27. The potential is growing over time.

Keywords: E-learning, covid-19, online learning, students, online materials

1 Introduction

The Internet has become one of the most significant parts of our daily lives. Internet usage accounts for an average of 40% of the daily time, which is nearly 7 hours (Kemp, 2020). This means that the average person who sleeps 8 hours daily spends 43.8% of their day on the Internet.

The pandemic of Covid-19 came with a lot of changes. Almost every country in the world was impacted by this, and it affected every section of our daily lives—health care, economy, travelling etc. One of the most impacted segments was education.

The COVID-19 pandemic has led to a significant change in training behaviour in ophthalmology towards e-learning and online courses, which has not been accompanied by a general decline in a training activity (Kamouna et al., 2022). The Czech Republic during 2020 and 2021 mostly switched to online courses, starting from grammar school to university. Due to the devastating Covid-19 outbreak and the implementation of national lockdown in many countries, teaching and learning across the world’s universities has consequently shifted from the usual traditional class-based to online. While the conventional approach has been preferred by most academics and students, adjusting to online learning posed a new challenge to academic students (Mseleku, 2020). This backs up the statement from the Internet connection. The students expect e-learning to be conducted in the form of e-learning, but not a laboratory and clinical classes (Dyrek et al., 2022).

The emergence of the Covid-19 pandemic undoubtedly resulted in devastating socio-economic challenges across the world (Mseleku, 2020). For this reason, traditional education and training have shifted to an online learning format (Al Shamari & Farooqui, 2022). In many forms, we can see online learning formats in online classrooms, sharing learning materials online, video courses and many more. The adoption of e-learning in response to COVID-19 is to ensure the continuous development of human capital through alternative means. Nevertheless, the success of e-learning systems depends much on the attitude of the users (Osei et al., 2022).

The positive that comes from switching to online education is the range. You can study from everywhere, and thanks to some online courses you can study anytime you want. The features accessibility, flexibility, intractability, and visualization with the characteristics of remote accessibility and flexibility, repetition and retrospect, feedback requests, and visualised analytical reports were considered to enhance learning outcomes (Liao et al., 2022). Not only the visualization but students had to think more since “they were on their own”. The learning practices were positively associated with the thinking processes and the thinking processes were positively associated with students’ basic science-related clinical ability (Liang et al., 2022).

There are many positives coming from e-learning but there are some negatives too. According to Dyrek et al., (2022) the main problems in e-learning are the quality of the classes conducted and the Internet connection. The students expect e-learning classes to be conducted in real-time, with direct, face-to-face contact with the lecturer (Dyrek et al., 2022). The technical issues with the personal or psychical problems of students can add up to more problems. In addition to technological issues, the majority of students cited psychological and social factors as reasons for their negative attitudes toward e-learning, such as a lack of readiness and ability to adapt to a new style of education, the ineffectiveness of the means and methods used, and poor communication with teachers and other classmate learners (Rabayah & Amira, 2022). And the study from Azmi et al. (2022) shows that, about half of the students were associated with increased depression. The outcome also indicated that female students experienced extreme depression, stress, and fear of examinations more than males (Azmi et al., 2022). This is proven also by research done by Zhou et al. (2022). We found that online courses with inappropriate characteristics were
associated with children’s mental health. The findings called for efforts to optimise online courses and improve children’s mental health (Zhou et al., 2022). Factors affecting the results of e-learning can be everywhere. The results show that a combination of organizational, technological, environmental and behavioural factors affects the efficacy of e-learning (Manjese, 2022).

One of the worst problems was the adaptation to this new system of education, the university students for example had to switch to remote lectures instead of practical training in the laboratory. In Science this pandemic there have been tectonic shifts in the education sector. Effective implementation of e-learning in higher education depends on students’ adoption of this technology (Chahal & Rani, 2022). Thanks to all of these experiences we can be more prepared for the future problems that could bring online education back, according to Subashini et al. (2022), adopting E-learning into the higher education sector could be recognized as a viable solution to facilitate the higher education during a crisis like COVID (Subashini et al., 2022).

The students had to become more independent. In times of heavy education during a crisis like COVID (Subashini et al., 2022). Factors affecting the results of e-learning can be everywhere. The results show that a combination of organizational, technological, environmental and behavioural factors affects the efficacy of e-learning (Manjese, 2022).

The chosen categories for this research are:

- Students older than 16 years in EU countries using the Internet (in the last 3 months),
- Using inter participating in online course,
- Using online teaching material.

Participation in the online course - a teaching course that takes place over the Internet. Communication with teachers takes place via the Internet, also the teaching materials are sent online. Online courses include language courses, personal development courses, computer courses and more. This also includes courses made through applications such as Duolingo.

Using online teaching material - includes education on websites or in applications using audio, video or text materials or online teaching software. There are no teaching materials that are downloaded from the Internet and used offline (without an Internet connection).

The research was done by comparing the data from the Czech statistical office with finding from literature research. Based on the keywords associated with this research. Such as e-learning, online learning, online course and more.

4 Results

Based on data from the Czech Statistical Office, specifically the use of information technology students (2021), several conclusions show.

Based on the data, it is possible to determine the use of IT students, which indicates a sample of approximately 10,000 students, for more than 16 years. We can learn the following.

First, we can see from the data that Students older than 16 years in EU countries using the Internet (in the last 3 months) compare the data from the Czech Republic to the average usage in the EU.

Figure 1: Number of students older than 16 years in EU countries using the Internet (in the last 3 months)
Based on the data showed in Chart 1, we can see that the Czech Republic is above average usage of internet compared to the usage of internet in EU. The data from Czech Republic shows, that the trend is going to be 100 or almost 100% usage in the next years, thanks to the internet still evolving and becoming one of the most important things in today’s teenagers live.

This corresponds with the statement from Kemp (2020), in his research he confirmed that nearly 7 hours we spend on average on the internet. This trend is confirmed that 100% of students use the internet.

Figure 2: Participation in an online course

Based on the data shown in Chart 2 that from the data 70,5% of students over 16 participated in the online course. This shows that even younger students show interest in online courses, this can be heavily based on the required usage of online courses due to schools switching to online courses due to the pandemic of Covid 19.

If we go even deeper into the data, 71.8% of men over 16 and 69.1% of women over the year sixteen participated in online courses. The expansion of online courses is imminent. This data show not only the usage of internet courses provided by the school but also shows the use of online courses outside the school like Duolingo etc.

Figure 3: Using online teaching materials

Chart 3 shows a similar trend in using online teaching materials. 69,5% of participants used some in the 3 months prior to the study some online materials. Based on gender we can see that 71,8% of men and 67,8 of women over the age of sixteen used online materials. The usage of online materials corresponds with a statement from Liao et al. (2022) that flexibility, accessibility, visualisation etc. were proven to enhance learning.

For a comparison of e-learning in the Czech Republic and EU27, I used the data provided by Eurostat to show very different results.

Figure 4: Participation in educational activities on the internet with students 16+ (EU compared to CZ)

Based on the data shown in chart 4 we can see that only 49,7% on average in the EU27 interacted in educational activities but only in the Czech Republic, 70,5% used participated in said activities. This shows the importance of education in the Czech Republic. And the will to the continued effort to educate students even during the pandemic.

Figure 5: Using online teaching materials (EU compared to CZ)

In chart 5 we can see the comparison of using online forms of teaching materials. There we can see there is not much of a difference between the Czech Republic and the EU27. It shows that most of the countries in the EU provided their students with online learning materials. But in comparison to online courses, it shows that the usage of just online materials is more common.

5 Discussion

The application process of learning has undergone major changes over the past two years, one of which was the adaptation to online learning. The results vary based on geographical territory. If we focus only on the Czech Republic, it shows that the effort to educate students is strong. Almost 71% of students over the age of sixteen participated in educational activities. Meaning webinars, online classrooms, educational courses etc. The usage of online education activities coming not only from schools but also from the student’s free time corresponds with the results from Sivaramalingam et al. (2022). Our results showed that the students were satisfied with the webinar teaching and acknowledged it to be an effective tool in the teaching-learning process to gain new knowledge and wish to attend webinars in future as a part of their curriculum. Thus, webinars have a constructive effect on the teaching and learning process in professional courses during the pandemic lockdown (Sivaramalingam et al., 2022). This also can be found in the study by Mohamed et al. (2022). This study finds that improving and enhancing student factors and system quality is critical for students’ satisfaction with e-learning. Furthermore, e-learning platforms should contain new advances in computer-mediated technologies that enable collaboration, which is a critical factor in the success of e-learning systems (Mohamed et al., 2022).

The usage of online materials is becoming more and more imminent in our future. Since it has more benefits than negatives. One of those can be the saving of paper for printing the materials. Objectives increased exposure to digital devices as part of online classes increases susceptibility to visual
impairments, particularly among school students taught using e-learning strategies (Cortés-Albornoz et al., 2022).

The online learning format however still has many problems. The technical issues, but we have to keep in mind that the students tend to be more struggling with mental issues thanks to the lack of social contact and world events. The coping strategies used by students ranged from support from family and counsellors, help-seeking, frequent communication, time management, and learning flexibility to control the learning environment (Okyere et al., 2022). One of the problems that can be found in the teachers, is that most don’t have that much experience with online learning. The relationship between the instructor role (instructor support, instructor-student interaction and instructor innovation) and students’ approaches to using online learning technologies highlight the importance of instructor support and innovation in facilitating students’ adoption of desirable approaches to learning from the application of technologies (Wang et al., 2022).

6 Conclusion

The usage of the online learning era was pushed even further thanks to the pandemic of Covid-19. During the pandemic, online learning interaction became more frequent among course network members whose interaction scale increased. After the pandemic, although the scale of interaction declined, online learning interaction became more effective (Zhang et al., 2022). Online education had become one of the only forms how to educate students during the lockdown in the Czech Republic. Online mode of education has been identified as the subtle solution to continue learning during the pandemic (Shafana et al., 2022).

From the data provided by the Czech Statistical Office and the Eurostat, we can see that in the year 2021 that 70,5% of students over the year sixteen participated in some online courses, which is 20,8% more than the average in the EU27. This shows that the Czech Republic has priority to still educate their students even during the lockdown. The data also shows that the students used not only online courses provided by the school but also educated themselves in their free time.

The usage of online materials is almost the same in the Czech Republic (69,5%), and the EU27 (64,7) making the difference just 4,8%. Online materials are more common now than ever since all the students and teachers online, based on the data and literature research the usage of online materials will become more important in the future. Even with the technologies latest trends, students nowadays use more technologies than traditional books and papers. Expectations regarding technology-mediated learning post-COVID-19 are mixed, hampering planning for the future. Hesitancy about teaching or taking courses with some or full online components regarding technology-mediated learning post-COVID-19 are mixed, hampering planning for the future. Hesitancy about technology-mediated learning post-COVID-19 are mixed, hampering planning for the future. Hesitancy about technology-mediated learning post-COVID-19 are mixed, hampering planning for the future. Hesitancy about technology-mediated learning post-COVID-19 are mixed, hampering planning for the future. Hesitancy about technology-mediated learning post-COVID-19 are mixed, hampering planning for the future. Hesitancy about technology-mediated learning post-COVID-19 are mixed, hampering planning for the future. Hesitancy about technology-mediated learning post-COVID-19 are mixed, hampering planning for the future.

Because of the pandemic, schools needed to change their old learning activities and become more online, than ever before. The students proved that online learning is beneficial for them and the teachers. But it still has many issues which must be resolved for the future of online education. Overall, the perceived effectiveness of e-learning among students and teachers has not changed significantly over time. Nor have students' preferences shifted significantly for various learning modes after in-person learning resumed. However, informative directional trends have emerged (Li et al., 2022).

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