

## Digital Natives and Online Learning in Police Students

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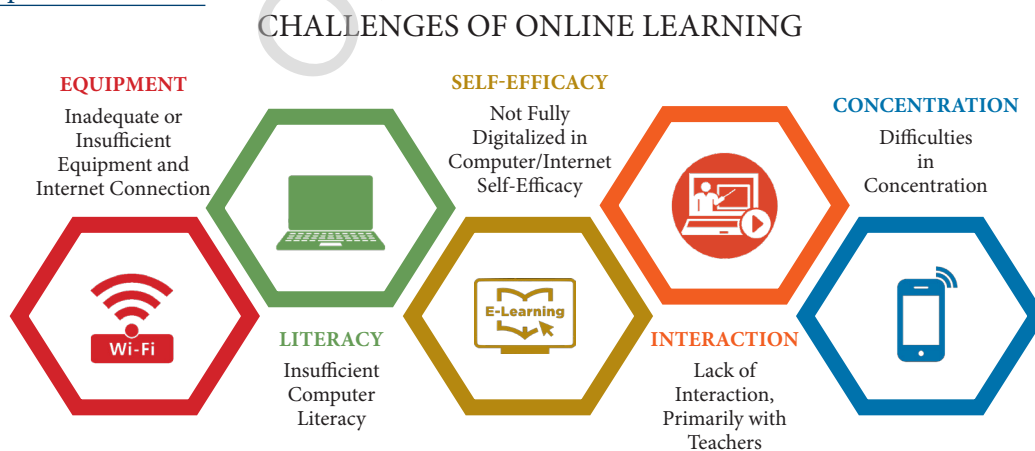
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**Abstract:** *Background.* Although not a novelty in education, online teaching and learning has come to the fore with the COVID-19 pandemic. As opposed to the time before this crisis, when it had been an option for certain categories of learners, with the pandemic going on, there has been emergency and forced shift to online environment which has had its impact on both teaching and learning. *Purpose.* This qualitative research was aimed to investigate the perception of the students of the University of Criminal Investigation and Police Studies (UCIPS) in Belgrade regarding the English Language 2 course primarily, but also regarding their online education in general. The questionnaire was designed, consisting of 11 multiple choice and open-ended questions combined. The goal was to investigate the opinions and experiences of the UCIPS students in order to get an in-depth insight into the problems related to online education. *Results.* The results suggest that in addition to the initial practical problems related to equipment and technology, the students faced other problems as well, including the lack of concentration, insufficient interaction, etc. However, there are some positive results: the students reported the overall satisfactions with the academic outcomes, and in their opinion the optimum way of teaching/learning would be a blended model. *Conclusion.* Our sample of Digital Natives have demonstrated the ability to recognize the main characteristics of online learning, its advantages and disadvantages, but also the objective and subjective aspects of problems. Although it was not a matter of choice for them, they have adapted to it well, as well as their teachers. The challenges however remain for both students and teachers in order for online education to be accepted even better in the future.

**Keywords:** online education, distance learning, Digital Natives, Digital Immigrants, police students.

### Graphical abstract



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## INTRODUCTION

Distance learning is not a novelty in either education in general or in higher education. In his article entitled *Distance Learning Has Been Around Since 1892, You Big MOOC* published in Forbes Magazine James Crotty says that “distance learning began in 1892 when the University of Chicago created the first college-level distance learning program” (Crotty, 2012). However, the year he mentions - 1892 - is not the actual first instance of distance learning, but just the first formal academically recognized college program of distance learning (Thackaberry, n.d.). “The first course was the Pitman Shorthand training program that brought cutting edge stenographic practices to the United States in 1852. Using the United States Postal Service, self-taught secretaries would mail their exercises to the Phonographic Institute in Cincinnati, Ohio and, after completing the required coursework, they would receive a certificate of expertise in stenographic short-hand skills” (Casey, 2008, p. 46).

This quick look back on the past reveals how much distance learning has evolved in the meantime together with new technologies, the courses being offered as part of radio and TV programs, and later on being facilitated by personal computers and the internet or the World Wide Web. However, e-learning started even before the internet was invented. One of the first instances of such learning in the world can be traced back to 1960, at the University of Illinois, USA, when students began learning from computer terminals that were interlinked to form a network (Sarkar, 2020).

Here we come across different terms, distance learning, e-learning, online learning or even virtual learning more recently, which people tend to use interchangeably. E-learning, online learning and virtual learning can all be considered technology-enhanced learning, but they mean different things and all focus on a different aspect of education. The location can be onsite or remote, the communication can be synchronous or asynchronous, the delivery can be online or offline, and the device can be digital or analogue (Le Cunff, n.d.). According to Le Cunff (n.d.), distance learning means that educators and students are in a different location, and the instruction is not necessarily delivered online. For Simonson and Berg (2016) distance learning is a form of education where there is physical separation of teachers from students during the instruction and learning process. For Klein (2016) it is also an instructional practice that effectively utilizes a wide range of tools and technology to enrich the student learning experience. E-learning, however, means electronic learning, which is actually an interactive learning application on a tablet or a computer that is not connected to the Internet. Online learning is learning over the Internet, and virtual learning is learning in a virtual classroom when the teacher and the students join the class at the same time (Le Cunff, n.d.).

Now that we have made it clearer what the terms mean, we must say that it is hard to say which of the terms is used most often. In our paper we have opted for the term online education/teaching/learning, as the one which is most often seen in the relevant literature, although according to the above definitions the most suitable term may be virtual learning. For the next five decades what we call e-learning, distance learning, or online learning was expanding with an increasing number of educational institutions offering more and more online courses. The expansion of courses has also prompted a number of researchers to initiate the studies on theory and practice of online learning, for instance, the study



of the current and past staff members of the Athabasca University, who gave their respective contributions and views of the strategic vision, the principal pedagogical and course management opportunities and challenges raised by the move to online environment, and comprised them in a monograph titled *Theory and Practice of Online Learning* (Anderson & Elloumi, 2004). Some research also included the comparison of face-to-face and online teaching and learning, particularly in higher education setting, such as the one done by Ananga and Biney (2017), who focused their research on ascertaining the focal point that would justify the best-preferred option as far as teaching and learning in distance education is concerned. The objective of Akhter and Mahmood's research (2018) was to explore the impact of online education on students' academic learning, while Meyer and McNeal (2011) investigated the impact of online faculty on improving students' learning productivity. Sun and Chen's article (2016) reviewed 47 published studies and research on online teaching and learning since 2008, primarily focusing on how theories, practices and assessments apply to the online learning environment. In her many works, Karen Swan has also addressed the topic of online learning from various perspectives, including but not limited to online learning effectiveness (2003), social support for learning and the development of virtual learning communities in online educational environments (Swan & Shea, 2005), or Community of Inquiry framework (Swan et al., 2009). Nwankwo (2015), conducted a qualitative case study that was aimed at examining the learning experiences and perceptions of students in online courses at a university in the western United States, to mention just a few authors.

Both theory and practice of online education was on the rise in the years previous to COVID-19 pandemic. When the pandemic started, practically all educational institutions were forced to change their work and to move to online environment. As the pandemic is still ongoing, the research related to online learning has continued, this time focusing on online education/teaching/learning within a new reality, such as the research done by Mishra et al. (2020), who, among other things, dealt with how the existing resources of educational institutions could effectively transform formal education into online education with the help of virtual classes and other pivotal online tools in this continually shifting educational landscape. Almahasees et al. (2021) conducted the study in which their aim was to identify both faculty's and students' perceptions of online learning, exploring the effectiveness, challenges, and advantages of online education in Jordan. In her article, Klimova (2021) discussed students' perception of and attitudes to online foreign language learning in the COVID-19 pandemic at the Faculty of Informatics and Management of the University of Hradec Kralove, Czech Republic. Another study is worth mentioning, the one of Bin Zou et al. (2021), in which the authors investigated university teachers and students' perception of effective EFL online teaching and learning based on several evaluation modes in using technology in education.

As it can be seen from the above, there are a lot of various studies both during pre-COVID-19 period and during the on-going COVID-19 pandemic addressing the topic of online education. Along with the expansion of online courses and research related to online education, the changes have become evident in both teachers and learners. Noticing this radical change in students, who are no longer the people our educational system was designed to teach but the first generations to grow up with new technology, Prensky (2001) came up with a term Digital Natives. Digital Native is the term usually used to describe young people who have grown up in the digital age, surrounded and in close contact with all kinds of



technology, such as computers, and video game consoles, and later mobile phones, social media, and tablets. He says that “our students today are all ‘native speakers’ of the digital language of computers, video games and the Internet” (Prensky, 2001, p. 1). As opposed to them, the majority of us, their teachers, belong to generations born before this new digital world, so we have been forced to adopt and learn a part or most of it later in our lives. We belong to the category of what Prensky calls Digital Immigrants. As he states, “we were ‘socialized’ differently from our kids, and are now in the process of learning a new language” (Prensky, 2001, p. 2). Making further analogy with immigrants in general, he says that “digital immigrants learn like all immigrants, some better than others – to adapt to their environment, so they always retain to some degree, their ‘accent’, i.e. their foot in the past” (Prensky, 2001, p. 2). Everything that Prensky says illustrates well the differences between the old ways taught by the teachers and the new ways required by new digital generations, suggesting that “if Digital Immigrant educators really want to teach Digital Natives, they will have to change” (Prensky, 2001, p. 6). Following some of the main Prensky’s claims, which date back to 2001, our intention in this paper has been to establish how our sample of Digital Natives, in other words the University of Criminal Investigation and Police Studies (UCIPS) students, have responded to online education that has become a part of their lives along with the COVID-19 pandemic and the new reality it has caused. For that purpose, we conducted the study and designed a questionnaire in an attempt to establish if they had and what their major problems were once they had to switch to online learning, what their perception was regarding how they and their professors coped with online teaching and learning and what were advantages/disadvantages of this type of learning in their opinion.

## COVID-19 AND THE NEW REALITY OF LEARNING

With the origination and spreading of COVID-19 virus, everything we did and knew before changed. The governments all around the world resorted to various measures in order to prevent spreading of the disease, so one of the first measures to use was a nationwide lockdown. In a single moment, the world stopped. It took a while until people and businesses started to adapt to new circumstances, but one common characteristic was that all activities moved to virtual environment or to say simply all activities went online. Wherever it was possible people started working from homes and the entire education moved online as well. Basically, the new reality caused by COVID-19 virus has resulted in new reality in learning as well. So, what has changed?

The first thing we would point out is that in the past online learning was a matter of choice. People chose to enrol in a course or studies because it suited their needs better. This kind of education was designed primarily for home schooled children, working adults in need of additional professional development or the people who lived in remote locations or towns and cities where the kind of education they were seeking was not available. Without going into too many details, this kind of education has its advantages and disadvantages, but we have to say that it requires also some personal characteristics such as self-discipline, self-motivation, good organization and persistence.

During COVID-19 pandemic, online learning all over the world has become a necessity. A lot of people, both Digital Natives and Immigrants had to do it online, although normally



they would never opt for it. When everything else closed, going to work or going to school were the only two instances of possible human interaction, and then they also went online. This resulted in a lot of resistance, by both students and teachers. While some adapted to online instruction easily, others were having difficulties. Some teachers felt discomfort, in most cases finding they are not trained adequately for online teaching in the first place. Regardless of insufficient and inadequate training, the majority of our sample of Digital Immigrant teachers made extra efforts to adapt their teaching to these new circumstances, spending hours and hours on learning the new teaching environments (such as Zoom, Google Classroom, BigBlueButton, etc.), as well as adapting their materials. We have to say that not all teachers were equipped for the new tasks either. They did not have computers, laptops, internet connections suitable for classes, to mention just a few problems. In addition to technical problems, for teachers this transition “has led to significantly intensified workloads [...] as they work not only to move teaching content and materials into the online space, but also become sufficiently adept in navigating the requisite software” (Allen et al., 2020, p. 233).

The same happened with the students. Some adapted easily to new learning environment, while on the other hand, some students also experienced difficulties. Although the Digital Natives who made the sample of our research have grown up with the technology and every single one of them almost cannot be seen without a cell phone for a single moment in a day, they have been completely unprepared for this kind of learning. Not only did they also lack technical equipment suitable for online learning, but they were not prepared to participate in this kind of education at all. From personal experience of the authors, very often they were reluctant to participate in online activities, and they were also more often than not reluctant to turn on their microphones or cameras, the only kind of participation being in online chats. Cuiying Zou et al. (2021) examined, among other things, the student readiness for online English learning, noticing that “online language learning is different from online learning of other subjects. Unlike other subjects, language is both the medium of instruction and the subject matter of online learning. In the learning process, the learners are supposed to listen, speak, read and write in the language they are learning. Therefore, whether the online learning environment can provide opportunities for the learners to use the language and whether the learners feel free to use it online determines the success of the language course”.

## PRESENT RESEARCH

When COVID-19 forced all educational institutions to move to cyberspace, several options existed regarding the way it would be done. The UCIPS in Belgrade opted to use the BigBlueButton teaching platform. According to the data that can be found on their web site, BigBlueButton is a global teaching platform, which was developed in a school and the only virtual classroom built from the ground up, just for teachers. It is available in 65 languages and teachers all over the world have contributed to its design (BigBlueButton | Open Source Virtual Classroom Software). And speaking from the authors’ personal experience, it really is user-friendly and offers all the options teachers need in their work. Once you overcome the initial fear of a new situation and a new platform, it really provides plenty of possibilities for everyday work.



## METHODS

We have conducted qualitative research aimed to collect and analyse the data related to students' attitudes towards online learning of English language primarily, but also related to other courses they had online. The sample included 62 second-year students of the UCIPS in Belgrade, 33 males and 29 females, aged 20-23. The research was conducted after they had completed their third consecutive semester online, but the first semester in which they had English course online.

The questionnaire consisted of 11 questions, combining multiple choice and open-ended questions, which aimed at examining the opinions and experiences of the students in order to get an in-depth insight into challenges related to online education. The students were also informed that the survey was anonymous and that the results would be used for research purposes only, and they all gave their consents to that effect.

## RESULTS

Although the primary and main goal of our survey was to investigate the students' attitudes towards online learning of English language, it did include some more general questions, which could eventually shed light on other courses as well and provide a wider picture of online education at the University during the COVID-19 pandemic.

The first question was aimed at establishing if the students had any experience with online learning/education prior to COVID-19 pandemic. None of the students had any previous experience with online learning/education.

The second question sought to identify the biggest problems they faced at the moment when the UCIPS started to work online. The major problems for the students at that moment included the issues with Internet connection and other technical problems (32 or 43.83% and 25 or 34.25% students respectively), while eight students reported that being unfamiliar with the learning platform was the problem. Another eight reported some other problems, without specifying them. Two students said they did not have any difficulties, and one student reported that he had a problem with concentration and that all professors should have had their cameras switched on.

The third question was intended to establish what model of learning they thought was the best, only face-to-face (in the classroom), only online, blended model (integrating face-to-face and online instruction), or something else. The majority of students said they would prefer a blended model (28 students or 45.16%), while the other answers were divided between "only face to face" and "only online" equally (17 students or 27.42% respectively).

The fourth question was "Do you think that online learning is suitable for all courses at the University?", and in case they said "no", they were supposed to specify which courses, according to them, were not suitable for online learning. The positive answers were given by 20 students or 32.26%, while 42 of them or 67.74% said that online learning was not suitable for all courses at the University. The courses they have specified as not suitable for online learning are Special Physical Education (31 students, or 50%), Criminalistic Technique (15 students or 24.19%), English Language, Criminal Investigation Tactics and Criminal Procedure Law (4 students or 6.45% respectively), professional practice (3 students or 4.84%) and all courses (1 student or 1.61%). Some of the students specified just one course, some of them specified several courses.



**Table 1. Questionnaire**

Question Number	Question	Yes	No	
1.	Prior to Covid-19 pandemic, did you have any experience with online teaching/learning?	0 (0%)	62 (100%)	
2.	When the University started working online, what was the biggest problem you had? – Technical problems (I did not have all required equipment such as a microphone, a camera, etc.) – I was not familiar with online learning platform – Internet connection problems – Something else			25 (34.25%) <sup>1</sup> 8 (10.96%) 32 (43.83%) 8 (10.96%)
3.	According to your opinion, what model of teaching/learning is the best? – Only face-to-face – Only online – Blended model – integrating face-to-face and online – Something else			17 (27.42%) 17 (27.42%) 28 (45.16%) 0 (0%)
4.	Do you think that online teaching/learning is suitable for all courses at the University? – Yes – No. If your answer is “no”, please specify which courses are not suitable for online teaching/learning	20 2.26%)	42 (67.74%)	
5.	Was the English Language 2 course in accordance with your expectations?	62 (100%)	0 (0%)	
6.	Was it difficult for you to attend the English Language 2 course just online?	2 (3.23%)	60 (96.77%)	
7.	Have the professors adapted well to online teaching?	62 (100%)	0 (0%)	
8.	The results you have achieved in English Language 2 are: – Better than expected – Worse than expected – Just the way you expected them to be, i.e. the same as if they would be had you had the classes face-to-face?			8 (12.90%) 4 (6.45%) 50 (80.65%)
9.	What was the biggest problem for you in the course of online teaching/learning?	*		
10.	How often do you use free internet learning resources, such as English language knowledge tests, grammar tests, and similar? – Often – Never – Rarely – Occasionally, as required			31 (50%) 7 (11.29%) 11 (17.74%) 13 (20.97%)
11.	In your opinion, what are the advantages and what are the disadvantages of online teaching/learning (both regarding English language and other courses)?	*		

Note: \*Answers to these questions are given in the text of the Results section.

<sup>1</sup> The numbers in this column may not always be 62 since some students offered more than one reply when the questions required them to specify the courses or explain something additionally. This is why they were given in a separate column. This is also why their answers are not given as percentages for all questions.



The fifth question referred specifically to the English Language 2 course they had completed in the spring semester. So, the question was “Was the online teaching of English Language 2 in accordance with your expectations?”, and they were asked to explain their answer. The answer was unanimously positive – 62 students or 100% said that it was. Some of the comments they volunteered were: “Great”, “The materials were excellent”, “I am very satisfied with the professors’ efforts”, “The classes were regular and the materials were always available”, “It was better than expected”, “Good communication with professors”, “Everything was the same as if we were in a classroom”, “Correct and interesting”, “The professors’ approach was excellent”.

The sixth question was meant to establish if the students had difficulties attending the English Language course just online. The majority of them said it was not difficult (60 students or 96.77%), and it was difficult for two students or 3.23%.

The seventh question was to establish if the professors adapted to online teaching well. The answer was also unanimous, i. e. 62 students or 100% said that the professors adapted well to online teaching.

The eighth question was “Are the results you have achieved in English Language 2 course – better than expected, worse than expected or just the way you expected them to be, i.e. the same as they would be if you had face to face teaching?”. The majority of students selected the third option – they thought that their results were just the way they expected them to be (50 students or 80.65%), while 8 students or 12.90% said the results were better than expected and 4 students or 6.45% said the results were worse than they expected.

The question number 9 was meant to establish what the greatest problems were during the online learning. For some reason, maybe because they did not read carefully, a number of students thought this question was the same as question number 2, without realizing that question number 2 referred to the initial problems when moving to online teaching and question number 9 referred to the problems which persisted after the initial problems could have been overcome or were expected to have been overcome. Therefore, the answers varied a lot and dispersed accordingly. The majority of students (32 or 51.61%) said they did not have any problems. Among the problems they considered to be the greatest during the online teaching, the next group of students once again reported the internet connection or the connection with the BigBlueButton platform as the greatest problem (18 students or 29.03%). Six students (9.68%) reported the equipment-related issues as their greatest problem. The lack of interaction and the lack of software knowledge were reported by three students respectively. The other reported problems included getting up early, problems with electric power, class schedule, concentration and participation in classes.

We also wanted to know if the UCIPS students, or our Digital Natives, are in the habit of using online sources, so the next question (No. 10) was meant to establish if they used free online sources for English language learning, such as online testing of English language knowledge or grammar tests and similar. The majority of students (31 students or 50%) replied they used online sources to check their knowledge, 13 of them or 20.97% said they used them occasionally, if required, 11 students or 17.74% said they used them rarely and 7 students or 11.29% said they never used online sources.

The last question asked the students to specify the advantages and disadvantages of online teaching (both as far as English Language course is concerned and other courses as well). When we speak about the advantages, 26 students or 41.93% said that the advantages they





find most important include more time for learning, the fact that they are at their homes and that they have more spare time. Other advantages specified include the possibility to log on from wherever they are, they have more learning materials available, classes are easier to attend, the access to testing is easier, online learning is a suitable alternative in emergency situations, and it is good for English language and other theoretical courses. In a way, the responses we got confirmed those from the previous study of Cuiying Zou et al. (2021), whose respondents found the advantages to be, among other things, flexibility and abundant resources.

When we come to disadvantages, the biggest disadvantages in the students' opinion include the lack of face-to-face interaction/contact, poor internet connection and technical problems. The other disadvantages specified include insufficient concentration, the lack of practical work, and some students find this kind of teaching and learning unnatural, inferior when compared to face-to-face education and they think they had lower grades in the exams.

## DISCUSSION

As we can see from the above responses, prior to COVID-19 pandemic our sample of students did not have any previous experience with online learning. This means that the problems they encountered with the shift to fully online learning were numerous. From their responses it results that their major problems could be considered technical and they were related to the inadequate or insufficient equipment and internet connection. This was expected in the beginning, since the shift to online learning was a matter of necessity and emergency, and not a matter of choice. The lack of the adequate equipment/technology was certainly the problem, but we also detected another problem which was related to insufficient knowledge of related software for online learning, or what we could define as insufficient computer literacy. One of the assumptions when designing this research was that our Digital Natives would certainly prove to be more skilful and have more knowledge of technology. In a pre-COVID-19 study Mehran et al. (2017) investigated the readiness of Digital Natives in Japan for learning English online. Even in the country such as Japan, the country which is technology-driven and manufactures a lot of high-tech gadgets, among the Japanese university students, who are skilful at using smartphone applications such as LINE and are even occasionally addicted to gaming, many are not avid technophiles when it comes to education (Mehran et al., 2017, p. 1). The Japanese researchers also found out that despite the fact that the majority of students had convenient access to computers and smartphones (92% and 93% respectively), and nearly all the participants (94%) said they had easy access to the Internet, they were still hesitant to take either a fully online or blended course of English (Mehran et al., 2017, pp. 8-11). In a way, the research of the Japanese authors as well as the current research with the UCIPS students, despite the differences in access to technology, both confirm that technology is just one segment which influences online education. In both cases the students were not prepared to participate willingly in online instruction, but in our case, they were forced to take online classes because of the pandemic. Cuiying Zou et al. (2021) notice that "studies on language learning during the pandemic keep emerging, but no one has studied students' and teachers' readiness for the transition from traditional teaching to fully online teaching or the actual problems they met in the process". The authors established that on average their student participants were



moderately ready for online college English learning during the pandemic semester. Their conclusion is that contrary to what one might expect, these digital natives could not be considered fully digitalized in computer/internet self-efficacy. According to this study, as well as some previous studies, readiness plays an important role in the process of online language learning (C. Zou et al., 2021; Mehran et al., 2017; Martin & Bolliger, 2018; Marzieh & Abbasian-Naghneh, 2021).

In addition to the above problems, difficulties in concentration were also reported by our respondents, both in the category of the problems that persisted during online learning and in the category of disadvantages. The difficulties concentrating were also reported by the students in the study of Lemay et al. (2021), in addition to heightened stress and missing interaction with peers. One of the greatest problems for our respondents, also in the two above mentioned categories, was the lack of interaction, primarily with teachers. Although designed in a different way, the study of Lemay et al. (2021) also confirms that students pointed out the specific challenges of the transition to online learning. The same as our respondents, the respondents of Lemay et al. (2021) reported the problems related to technological shortcomings, but also their perception was that there were less interactions, poorer communication, and more overall confusion.

The students of the UCIPS in Belgrade have demonstrated a high degree of awareness of the specificities of their courses and they have singled out the courses which are not suitable for online learning, such as Special Physical Education or Criminalistic Technique, which both require face-to-face and laboratory work respectively.

Despite technical-related problems they encountered, as well as the time required to adapt to the new learning environment, the students were satisfied with their online English Language 2 course, and with the results they achieved at their final exam in English Language 2, stating that they were exactly as they expected them to be, according to the prevailing number of respondents (50 students or 80.64%). When asked to choose the best model of learning in their opinion, the majority of police students opted for blended model of learning (45%). Another study (C. Zou et al., 2021) confirmed that more than a half respondent had expressed their willingness to learn English either in a fully online or blended course in the future. As noted by other researchers (Mehran et al., 2017; Lemay et al., 2021), the obstacles to fully online learning are not only technological and instructional challenges, but also social and affective challenges of isolation and social distancing. What is also important to point out here is that despite our sample of students had never had any experience with online education prior to COVID-19 crisis, the majority of them do use online learning resources for various purposes.

As noticed by Ebner and Gegenfurtner (2019), compared to traditional face-to-face education, the use of online environments is accompanied by certain advantages and disadvantages, which students are able to perceive. In line with this, we can also say that our respondents have recognized both the advantages and disadvantages to online learning. According to the responses of the UCIPS students both they and their teachers have adapted well to the new educational circumstances. One of the studies which reflected upon the problem of adaptation to online learning suggests that a high level of preparedness is required so that we could adapt quickly to the changes in the environment and adjust ourselves to different delivery modes, such as online learning in situations like COVID-19 pandemic (Dhawan, 2020).



## CONCLUSION

Distance learning in the beginning and online learning today have become a part of our lives both in the period before COVID-19 and during the still on-going pandemic. Prior to COVID-19 crisis, online education was a matter of choice for people whose living or working circumstances did not allow them to attend the classes at colleges and universities away from their homes. During the COVID-19 crisis online learning has become a matter of necessity. Both teachers and students had to adapt to new circumstances, some better than the others in both categories.

Our research was aimed at examining the perception of the students of the UCIPS in Belgrade regarding their online English Language 2 course primarily, but also regarding other courses they had at the University. Being Digital Natives who deal with new technology on a daily basis, it could have been expected that they would adapt more easily to new circumstances. However, this was not the case. They reported having difficulties in adjusting to the new way of learning. The research confirmed that they were able to recognize and pinpoint the main characteristics of online learning, which in the future will certainly help us better understand the process of teaching and learning at the UCIPS. The prevailing problems they reported were objective (the lack of adequate equipment and internet connection), but also subjective (the lack of software knowledge, concentration, interaction, and so on). Still, the majority of respondents opted for the blended model of instruction. It is interesting though that the Digital Immigrants (the UCIPS professors), according to the respondents in this study, also coped well with the new requirements and adapted quickly to the new teaching environment.

The challenges of this emergency shift to online learning environment are maybe best summed up by Dhawan (2020), who notices that there are many challenges which include learners' issues, educators' issues and content issues. For institutions, the challenge is to engage students and make them participate in the teaching-learning process. For teachers, the challenge is to move from offline to online mode, which requires changing their teaching methodologies and managing their time. As for the content, the challenge is to develop content which not only covers the curriculum, but also engages the students (Kebritchi et al., 2017).

Since the respondents have recognized well some advantages of online education, which to be honest has not been their option in the first place, as well as that the majority of the respondents were in favour of the blended model of learning, our recommendation for the future when the crisis is over, would be to think about integrating online and onsite teaching to some degree, to make a virtual classroom a natural environment for both students and teachers, as it sure offers a lot of possibilities for both teaching and learning.

## CONFLICT OF INTEREST

The authors have no conflicts of interest to declare.



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