Digging deeper: Investigating the emotional impact of online learning on university students during COVID19 in Greece

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The paper investigates the emotional impact online learning had on university students during the Covid-19 pandemic. For this purpose, a quantitative research was conducted in which 83 university students answered a questionnaire. The results indicated that, although the students feel confident with their technological skills and the support they have received in online learning and trust their professors, they are not satisfied with this kind of instruction. Dissatisfaction is associated with long hours spent attending online classes. Students who had not been used to face-to-face instruction prior to the pandemic are more overwhelmed by their professors' expectations in online learning as opposed to their peers who had some familiarization with the latter. A connection was found between stress and deteriorated academic performance, while the participants reported struggling to balance their personal and university life and feeling frustrated that they cannot see their classmates due to turned-off cameras. This led to feelings of loneliness, which was associated with low motivation. Anxiety, exam- and workload-related stress, isolation, and compromised mental health were among the recurring issues. Nevertheless, bonding with the professors and enjoying the flexibility of online learning were highlighted, while the study gave voice to socially anxious students who embraced online learning.

Key words: online learning, COVID19, university students, emotional impact

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1. Introduction

The rapid spread of the Covid-19 virus around the globe triggered a series of lockdowns and curfews that resulted in drastic changes in the everyday lives of citizens everywhere. University students were among the groups of the population whose life was significantly affected by the Covid-19 restrictions (Baloran, 2020; Arora *et al*., 2020).

In compliance with the national regulations that were enforced by governments worldwide, universities shifted to online classes in what has been characterized as "Hobson's choice", and students were called to adjust to the new learning methods under remarkably difficult and unprecedented circumstances (Arora et al., 2020, p.1).

2. Theoretical background

The younger generation presents a level of familiarization with technology which renders its representatives "hyperconnected and facile with computers and the internet" (Boysen et al., 2016, p.103). Contrary to their university professors belonging to older generations that may be struggling to keep up with the constant changes in technology, university students' clear advantage is that the majority of them belong to 'Generation Z' thus being by definition digital natives in the sense that they were introduced to technology and the use of the Internet from the beginning of their lives (Boysen *et al.*, 2016; Prensky, 2001).

Nevertheless, online learning is something which entails challenges that university students – despite their familiarization with technology – may not be able to deal with. Being familiar with social media platforms and applications to ease one's everyday life does not necessarily entail that one is also in position to attend online classes in higher education on a daily basis and cope with their demands. Particularly in the context in which the shift to online learning was made, university students found themselves having "hardly any time for preparation and coping with new context" (Arora *et al.*, 2020, p.2). Research has shown that this shift, characterized by its abrupt and forced nature, led to negative effects concerning university students' socialization as well (Hoss *et al.*, 2021).

When online instruction is conducted in the context of a pandemic caused by COVID19, the emotional impact that this can have on university students can be particularly severe (Baloran, 2020). The pandemic has brought along "not only the risk of death from infection but also unbearable psychological pressure" (Cao *et al.*, 2020, p.1). Research has shown that "[a]nxiety and isolation can be part of online learning", while communication restrictions which are "inherent in online courses can reduce immediacy", exacerbating feelings of loneliness (Reilly *et al.*, 2012, p.100-4). Indeed, it has been found that university students' exam-related anxiety levels have increased in the context of the coronavirus pandemic (Arora *et al.*, 2020). Moreover, excessive use of technology in general "can negatively impact the physical, mental, emotional, and social health of youth" leading at times to addiction (Halupa, 2016, p.1).

It has been argued that "[e]ven after the COVID-19 pandemic is over, its repercussions likely will linger for years" (Kaplan-Rakowski, 2021, p.134), considering that medical scientists have indicated similarities between the psychological impact of the pandemic and that of post-traumatic stress disorder (Masiero *et al.*, 2020; Tang *et al.*, 2020). The extent of the validity of this hypothesis remains to be seen. In that context, the present paper aims to address the research gap pertaining to online learning in tertiary education in Greece during the pandemic. More specifically, it intends to investigate the emotional impact that online education has had on university students in the context of the Covid-19 pandemic.

3. The study

3.1. Research questions

The present study is constructed upon three basic research questions, namely:
    1. What perceptions do university students hold towards online learning during the Covid-19 pandemic?
    2. What kind of emotional impact does attending university classes online during lockdown have on university students?

> 3. What positive and negative aspects does online learning during the pandemic have according to university students?

To this end, a questionnaire was designed and distributed online to university students.

3.2. Participants'profile

The questionnaire was answered by 83 students, 89% of whom were female, 8% were male, and the remaining 2% preferred not to state their gender. Almost half of the respondents, namely 49%, belonged to the age group of 18-22, followed by 22% who were aged 23-30, 16% who were older than 40 and 13% belonged to the 31-40 age group. The majority (65%) were Bachelor's students, followed by 34% who were studying for their Master's degree. Finally, 1% were in the process of obtaining their Ph.D.

In response to the question about the city and country in which their university is located, 62% of the students reported that they study at Aristotle University of Thessaloniki), followed by 37% who studied at the Hellenic Open University (online distance education), while the rest did not provide a clear response.

3.3. Instruments and data analysis

The questionnaires used for the purposes of this research were written in Google forms. Each questionnaire is comprised of five sections. The first section is comprised of profile-building questions in the form of multiple-choice. The second included multiple-choice questions related to aspects of online learning. In the third section, students were asked to provide answers to a series of statements presented in Likert scales regarding their perceptions towards online learning. Section four included more Likert scales and aimed at determining the emotional impact that learning online during the national lockdowns had on university students. Finally, the fifth section comprised a series of open questions allowing the respondents to share their views on online learning. Once the answers collection process was completed, data analysis was conducted using the Statistical Package for the Social Sciences (SPSS). The findings of the analysis will be presented in the next section.

4. Findings and discussion

The research showed that most students reported spending up to 5 hours per week doing university-related tasks, including preparing activities for attending classes and participating in student projects. Class attendance and material studying took up more of the respondents' weekly time, as shown in the following chart:
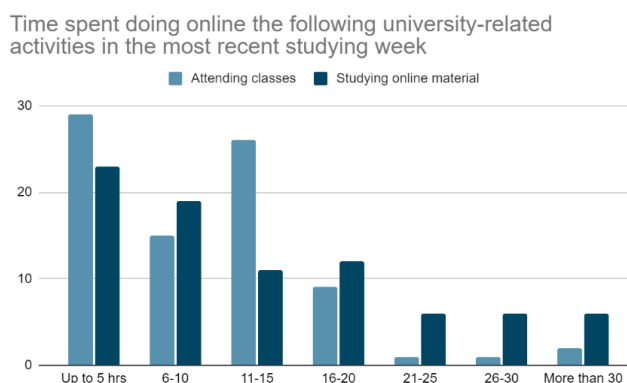

Chart 1: Time spent online on university-related activities by university students

4.1. Research question 1: What perceptions do university students hold towards online learning during the Covid-19 pandemic?

Addressing the first research question related to students' perceptions towards online university classes during the pandemic, the respondents were asked to state their level of agreement with a series of statements. Generally, students expressed a positive attitude towards online learning with more than half of them expressing agreement and strong agreement with issues such as their confidence with their technological skills, and the support they have received during their online learning experience, as can be seen in the following charts:
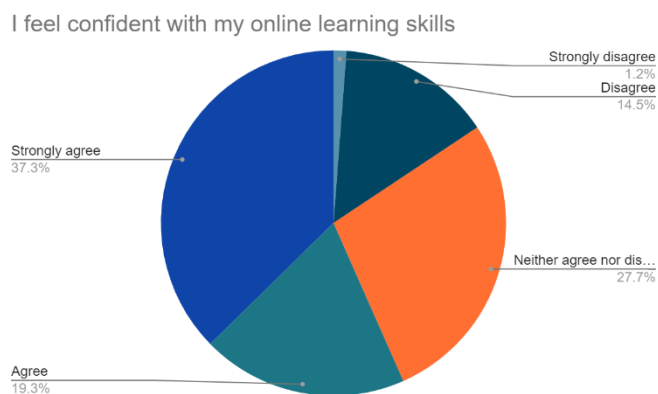
I feel confident with my online learning skills

Strongly disagree
1.2%
Disagree
14.5%
Neither agree nor dis…
27.7%
Agree
19.3%
Strongly agree
37.3%

Chart 2: University students' confidence with their online learning skills

I feel I have the knowledge to cope with online classes

Disagree
4.8%
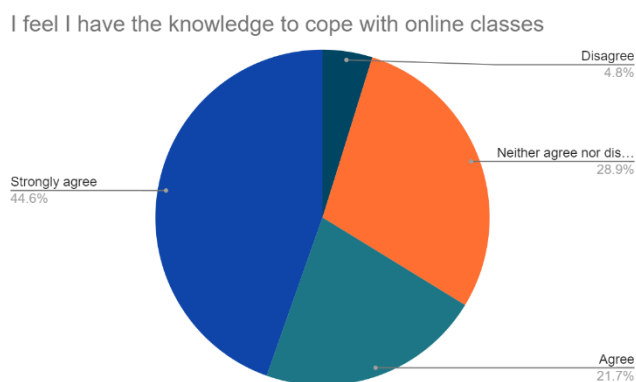Neither agree nor dis…
28.9%
Agree
21.7%
Strongly agree
44.6%

Chart 3: University students' perception of their ability to cope with online classes

On the other hand, 30% expressed strong agreement that they would avoid online classes if they had the choice, and 35% of the students strongly agreed that they feel that having online classes is less satisfying than attending face-to-face classes. A chi-square test was performed to determine any association between the students' reported hours spending attending online classes with their satisfaction levels. A statistically significant correlation emerged ($\chi2(24, N=83) = 43.62$, $p = 0.008$), proving that the more hours university students spend attending online classes the less satisfied they probably feel with their learning experience.

Interestingly, on many occasions, the respondents avoided taking a clear position adopting a neutral point. That was the case with statements such as whether they have lost their interest since they started having classes online (30%), whether they feel bored in online classes (37%), if it is easier to be assessed online during exams (39%), if the online assessment is not a fair method of assessment (40%), if they use more strategies when learning online (35%), and if they have to make a lot of changes to adapt to online learning (33%).

4.2. Research question 2: What kind of emotional impact does attending university classes online during lockdown have on university students?

The second research question focused on the emotional impact of studying online during the lockdown. Students emphasized that their workload has increased significantly since they started studying online (35% agree, and 31% strongly agree). 52% of university students feel overwhelmed with the amount of time it takes them to study for their online classes and 49% feel bored when they study online.

An independent-sample t-test was conducted in order to compare the responses given by the students studying at the Aristotle University of Thessaloniki (AUTh) (M=3.60, SD=1.25) on the issue of whether they feel overwhelmed by their professors' expectations with those given by the students studying at the Hellenic Open University (HOU) (M=2.53, SD=1.17). The latter has been offering almost exclusively online courses since its establishment. There was significant difference between the two groups (t-test=3.86, df=64.40, p=0.000<0.05). It appears that AUTh students who had not been used to online learning prior to the pandemic were more overwhelmed compared to their classmates at the HOU who had been exposed to online classes from the beginning of their studies.

41% of the respondents reported that they would feel better if their classmates had their cameras on while 34% disagreed, and 47% expressed a feeling that their relationship with their classmates has deteriorated since they started studying online although 29% disagreed with the latter statement. The turned-off cameras could be intensifying the feeling of loneliness that students experience while learning online. In order to determine whether there is an association between students' reported feelings of loneliness and their motivation during online classes, a chi-square test was performed. A statistically significant correlation emerged ($χ2(16, N=83) = 49.86$, p = 0.000). This finding could indicate that the lonelier students feel the more their motivation to attend online classes is affected.

Another chi-square test was conducted to investigate any association between students' reported feelings of stress to participate in online classes and their views on whether their performance has deteriorated. A significant correlation was found ($χ2(16, N=83) = 50.09$, p = 0.000), proving that the stress that students experience when they need to participate in online classes can be connected to their perceived academic performance deterioration. At the same time, the following chart shows university students' struggle to balance their personal and university life amidst the pandemic:

I am struggling to balance my personal and university life

Strongly disagree
10.8%

Disagree
18.1%

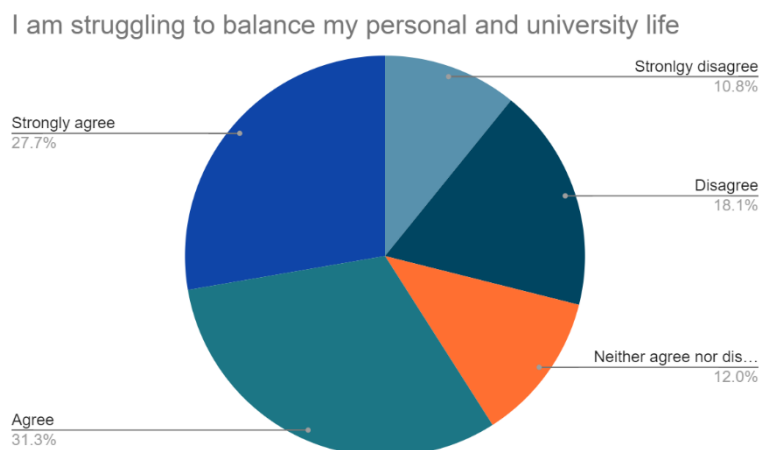Neither agree nor dis…
12.0%

Agree
31.3%

Strongly agree
27.7%

Chart 3: University students' views on their struggle to balance personal and university life

An interesting finding in students' responses was that they have not lost their trust in their professors, reporting confidence towards them during online learning (65%). Similarly, even though they claimed above that their relationships with their classmates have deteriorated, 43% reported that they have received useful advice from their classmates in the process of adapting to online learning, and 46% that they feel confident with the way they cooperate with them during online communication. Interestingly though, 37% held a neutral position on the first matter, and 31% were neutral on the second.

4.3. Research question 3: What positive and negative aspects does online learning during the pandemic have according to university students?

In response to the third research question, the respondents were first asked to share a pleasant surprise in the process of learning online. The variety of ICT tools and the skills that they were given the chance to develop were among the most popular answers given by the students. Many of them also addressed the communication and rapport that they managed to establish with both their classmates and professors thanks to online classes as a pleasant surprise, as highlighted in the following comments:

> "The cooperation with classmates"
> "How helpful the tutors are"
> "Communication with the professor"
> "Teacher-Student interaction"
> "The support of a specific teacher"
> "Meeting and working with colleagues I had never worked with before"
> "A professor expressing themselves that they are grateful to our contribution and that the students really mattered to them and that they missed them"
> "An unexpected bonding in one of the toughest courses in my school with both my classmates and the professor"
> "Attitude of the teachers (extremely helpful / understanding)"

Some students also expressed how helpful online classes have been in boosting their confidence and alleviating their social anxiety:

> "I do not feel lonely at all. In fact, it has facilitated the alleviation of my social anxiety and I get to participate much more, since I do not feel exposed."

> "I am naturally extremely shy and introverted and online learning has boosted my confidence A LOT. Also, I do enjoy staying at home a lot and spending time by myself, so I do not really mind it."

A pleasant surprise to the respondents was also the convenience and flexibility that learning online entails, freeing them from time wasted ("Time gained from having to commute", "I am never late and I can watch the whole lesson from the start"). It enables them to eliminate distances ("I can participate in contact session from another country", "I could study from Halkidiki"), providing them with a more convenient learning environment and easier access to it ("I didn't have to use the bus to go to the lectures", "I can study at the comfort of my home"), and giving them chances to multi-task while attending lessons ("I could watch the lecture while at the same time eating"). Finally, the students were pleased with how online classes brought solutions to some of their practical problems. For instance, one of them referred to their chance to prove their capabilities thanks to online exams:

> "My handwriting is very bad, and…during exam periods…instructors have given me a lower grade because they were not able to make out my lettering. That is not a problem now since we use keyboards…and now my grades are representative of my studying for the exams."

On the other hand, among the respondents' worst experiences with online learning were those related to connection and other technical issues which triggered feelings of frustration, exacerbated by the fact that they were at times forced to miss classes due to those issues. Technical challenges have been significantly associated with student dissatisfaction with online learning (Fawaz & Samaha, 2020). This is a point that was raised by 35% of the students in the present research.

Another serious issue that students had to deal with was stress and anxiety, with a lot of them mentioning that they had been experiencing headaches. Tertiary education students face several stress factors as they find themselves in a "transitional life-stage" navigating new environments and adjusting to adulthood (Othman *et al.*, 2019, p.1). Their susceptibility to such stress factors is exacerbated particularly when unprecedented crises occur, such as a global health crisis. Research has concluded that online learning during the pandemic has "given rise to depression and anxiety disorders among undergraduate university students" with "depression, anxiety, and stress" being significantly correlated with student satisfaction (Fawaz & Samaha, 2020, p.52). A study conducted in China, a country that attracted a lot of negative attention especially at the onset of the pandemic, found that university students' pandemic-related anxiety was associated with factors such as "their place of permanent residence, source of parental income, whether living with parents and whether a relative or an acquaintance was infected with COVID-19" (Cao et al., 2020, p.3).

In the present research, anxiety was closely connected to the online exams and the exhausting workload which, according to the participants, increased during online learning, though perhaps the presence of more stress factors was overseen or underplayed by the respondents. Attending online classes has been particularly stressful for some shy students who were having a hard time participating with their cameras on ("Anxiety, when I have to talk or turn on my camera even if I don't want to", "Being forced to have my camera on." "The stress I have when I have to participate"). For some students, the increased workload was a cause of anxiety and frustration ("[S]ome professors saw online classes as an opportunity to assign many more projects than they would do under normal circumstances.", "Truly overwhelming extra work").

Oral presentations also became a common technique of evaluation utilized by many professors in an attempt to form a clearer opinion on their students' progress. However, these presentations turned into a stress factor for several students, with one of them highlighting that "many professors chose to add presentations…which piled up to a lot more than what I could handle as a socially awkward person".

Despite their familiarization with technology and their excitement to be exposed to new tools, as seen at the beginning of the questionnaire, transitioning from face-to-face to online exams caused significant distress on students who at times felt at a loss of control due to the possibility of unbalanced factors such as technical issues jeopardizing their performance and hard work. It has even been found that university students' exam-related anxiety is greater than the anxiety caused by the pandemic and the constant threats to their physical health (Arora et al., 2020). It appears that online exams could seem more stressful to university students than a deadly pandemic. The following comment given by one of the participants attests to this finding:

> "[O]nline exams are so stressful because we are not given enough time to think or even read the whole question … and we have to think of the connection or if the laptop will make it until the end of the exam because we overuse it or of any noise in the house as well or anything else that can happen during exams because we are at home."

University students' mental health appears to be compromised by the pressure caused by the lack of adequate time during online exams. A respondent described their experience having a panic attack during their online exams, as well as the aftermath of their poor performance:

> "It was during the exams of the winter semester, …the instructor gave us so little time to answer so many questions. I panicked, I got extremely anxious …I wish that instructor knew about my panic attack and gave me a second chance."

Another student elaborately addressed their poor mental health conditions highlighting the lack of support that they received from their professor.

> "Once a professor realised that my mental state was wrecked and saw the visible exhaustion and burnout on my face and performance. But in a personal meeting that professor still condemned my work as not enough and advised me to try harder and try harder to put priorities in my life…I was barely hanging to maintain some kind of health and not pass out sick."

Social isolation and distancing, along with the insecurities and fears induced by the pandemic, sometimes make it hard for people to share their hardships or empathise with those who get the courage to be open about their mental and emotional struggles. However, "prioritizing the wellness of students…may be a desirable modification that educators should address…during times of…mental stress that accompany the pandemic" (Kaplan-Rakowski, 2021, p.134).

In a similar context, lack of interpersonal relations was also discussed by students as being part of their bad online learning experience as one of the respondents emphatically stated "[w]henever the internet connection dropped, I couldn't ask what we were doing because I didn't know who my classmates were". It would seem that breakout rooms may have eliminated potential communication barriers and could have given students a chance to get to know each other and feel part of the community. However, their answers indicate the opposite, as many respondents highlighted their struggle to collaborate with their classmates in breakout rooms, due to the latter's reluctance to participate actively: "the majority of them cannot communicate and co-operate when needed. They simply chose not to talk at all, which for me is at least disrespectful".

Finally, the most pessimistic comments brought forward the feelings of boredom ("online classes are boring anyway, so there was nothing that could make online learning worst"), isolation ("[I was] [f]eeling lonely and isolated because of cameras being turned off"), and loss of interest ("I have lost my interest in classes"). Being in a state of quarantine for excessive periods has indeed been found to

impact individuals' mental health, with the aforementioned feelings being among the most reported (Brooks *et al.*, 2020).

The participants' responses to the question regarding what the greatest challenge learning online had been, were quite similar to those discussed previously. The issues of coping with online exams, communication issues, and the increased workload, along with the struggle to "[stay] motivated and not [feel] lonely" were brought up many times. The respondents also addressed some practical challenges such as having to remember the different links to their classes or "having to look for the zoom link each time" and to study online material instead of "physical copies of books", or health-related issues connected to the sedentary lifestyle they were forced to adopt ("I…faced some problems with my neck and back", "too much screentime/ back pain", "eyes hurting").

Maintaining concentration despite the various distractions was a major challenge for several respondents, as shown by the following comments:

> "When you are on your computer you are always distracted and tempted to just surf on the internet and look up random things."
> "I get easily distracted because I am at home."
> "[A]ttending classes when there's so much going on at home"
> "[T]oo many things at home that distract you"

Indeed, other studies confirm the students' views emphasising that the social isolation caused by the quarantine is closely connected to "procrastination and feelings of worthlessness", while it has been found that anxiety is correlated to feelings of low self-efficacy (Fawaz & Samaha, 2020, p.53; Arora et al., 2020).

4.4. Other interesting findings

Overall, the various challenges that university participants needed to face during online learning could be summarized in the following comment expressed by one of them: "Combining a 'real' life with an online student presence". Indeed, attempting to balance those two aspects of their lives "while keeping a good mental and physical health (sic)" has affected students' motivation, stress levels, and physical well-being.

In response to the question "what do you feel you are missing when you are learning online?", interaction and socialization were the most frequent answers given by the respondents demonstrating the negative socio-emotional impact of online learning. One of them commented that they are missing "[t]he university experience", something which for some respondents takes the form of "hanging out in the library and borrowing books", or "the big rooms, the hustle and bustle of the university, the library, meeting people". Another form of the "university experience" was given by a respondent who admitted having lost their motivation as a result of online learning: "I was going to university classes so I could meet my friends and fellow students after the class. Since I've lost this motivation, I really skip classes". These findings are in accordance with another study that concluded that "exclusive online instruction and learning methods have rendered the students dissatisfied with their learning experience" (Fawaz & Samaha, 2020, p.55).

Despite the challenges and unpleasant experiences, more than half of the respondents were in favour of being taught with the use of a blended curriculum in the future, combining the freedom and flexibility brought by online learning, along with the chances for communication and development of interpersonal relations characterizing in-class learning. This finding is in contrast with research conducted among Filipino university students, the majority of whom were opposed to the

introduction of a blended curriculum in their academic institutions (Baloran, 2020), an opinion shared by Polish university students as well (Rizun & Strzelecki, 2020).

In the final section of the questionnaire, the students were offered the opportunity to share any thoughts on the emotional aspect of online learning they desired. The responses were admirably powerful and honest, varying from total disregard towards online learning to great enthusiasm for the experience. For some students, online learning during the pandemic is "[a]wful, unsupportive, lacking, stressful", and "tiring, mind-numbing and not very helpful". It "is rather impersonal and makes you feel detached", "lonely…disconnected and very angry". The most dramatic of the respondents mentioned that "I have lost every inch of motivation" or that "[online learning] has wrecked me emotionally".

For others, online university classes were a positive experience, helping them feel safer, as shown in the following excerpts:

> "Being a person with social anxiety, online learning offers some kind of relief. But, it is also extremely stressful in a different kind of way."
> "Online learning is an ideal and less stressful way of learning for busy people."
> "It has helped me so much! People tend to neglect us anxious students a lot and they do not seem to understand how draining human interactions can be."
> "I feel more safe at home rather than at campus. Certain colleagues of mine have bullied me in the past, so I do not even want to imagine what might happen should we return back to normal."

These are the findings of this study which by no means can be representative of the entire Greek university population. The results, however, address main issues raised regarding online learning and indicate the emotional and socio-emotional impact that online learning in combination with the pandemic COVID19 has had on university students.

5. Conclusion

Looking at online education during the Covid-19 pandemic through the "pandemic vs. education" dilemma (Rizun & Strzelecki, 2020, p.1) is a rather nihilistic approach that fails to do justice to the potential that online learning entails and the opportunities it has offered to university students. Undoubtedly, the pandemic has been a challenge to "the entire educational system", causing a tremendous impact on students' mental health and raising obstacles to their struggle for emotional and mental well-being (Arora *et al*., 2020, p.12). Nevertheless, "in hindsight, [it] has opened opportunities for universities to revamp their content delivery" and re-direct their attention towards the "emerging cloud-based technologies" (Arora *et al*., 2020, p.12-13).

The present research has aimed to investigate the emotional impact that learning online during the Covid-19 pandemic has had on university students. The findings highlighted that online learning has aggravated students' stress and frustration as a result of the proliferation of online exams and increasing workload. Students' insecurities were closely connected to the potential issues caused by technical malfunctions, while distance communication caused feelings of isolation. The study, however, gave voice to a group of the student population for whom online learning has been a relief from social anxiety, while for many others it has been a great opportunity for exposure to new tools and learning environments.

The small number of participants is the main limitation of the research. The authors also recognise that the emotional impact that the respondents attributed to online learning should not be located only in the teaching mode but could be the result of a number of factors – personal, social, financial,

health-related, and others – affecting their emotional state. Similarly, the connections reported by the respondents between online classes and their emotional impact may not always be causal, but rather temporal.

Finding ways to overcome the obstacles and highlight the methods which can render online learning a positive experience for university students should be the aim of future research. In this way, the pandemic vs. education dilemma will be part of the past giving way to a "pandemic and (online) education" future.

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