Research Article

Face-To-Face, Online and Hybrid Education: University Students' Opinions and Preferences

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ARTICLE INFO	ABSTRACT
	Although there is a growing number of studies with regard to the forced transition to online education during the COVID-19 pandemic, fewer studies regard students' perceptions on different modes of education or a comparison among these. The purpose of this study was to investigate university students' opinions and preferences regarding face-to-face, online and hybrid modes of education, soon after their return to traditional face-to-face classes. The participants were 24 Greek students and data were collected via semi-structured interviews. Perceived benefits of face-to-face education include immediacy with teachers, socialization, and interactions, as well as students' active participation, while the major perceived disadvantage is the demanding timetable. Perceived benefits of online education include the time and space flexibility, followed by familiarity with digital technology, while negative opinions regard technical problems and loss of practical classes. Positive perceptions about hybrid education are often linked to combining the benefits of face-to-face and online education. Students' preferences for their future education highlight both face-to-face and hybrid education. Implications for university practices-policies, and recommendations for adoption of hybrid-blended modes of education are discussed. **Keywords:** face-to-face education, online education, hybrid education, university, student opinions, COVID-19 pandemic

INTRODUCTION: BACKGROUND

Universities and higher education institutions were forced to close during the consecutive COVID-19 lockdowns, emergency remote teaching was implemented by the majority of educational institutions (Van der Graaf et al., 2021), and students' online learning relied heavily on digital technologies' support (Iqbal et al., 2022). Although online and distance learning are not new for the university level, this was a new and sudden experience for university students who normally attend face-to-face classes. The transition to full online teaching-learning during the COVID-19 pandemic lasted for about three academic semesters (March 2020 till September 2021) and then universities returned back to the traditional face-to-face education. The purpose of this study was to investigate university students' opinions and preferences regarding face-to-face, online and hybrid modes of education, soon after they returned back to face-to-face classes. Students' experiences of having taken fully online classes affect their opinions/concerns (Pettigrew & Howes, 2022). It is important to explore students' perspectives-preferences because these are likely to affect their attitudes

about the different modes of university education (face-to-face/in-person, online and hybrid-blended education) in the post-pandemic era. It is noted that online teaching (synchronous or asynchronous instruction) takes place completely on the internet, while hybrid teaching takes place partially on the internet; this may include some students being in class while others are online or all students meeting part of the time online and part of the time face-to-face (Sullivan, 2022). The terms 'hybrid' and 'blended' (education/ teaching) are used synonymously.

There is a growing number of studies from March 2020 onwards, with regard to the transition from traditional face-to-face to online education during the COVID-19 pandemic (Aristovnik et al., 2020; Bond et al., 2020; Malik & Dahiya, 2021; Nikolopoulou, 2022; Nikolopoulou & Kousloglou, 2022), most of them focusing on university students' perceptions on online learning (e.g., Iqbal et al., 2022; Khan et al., 2022); fewer studies regard the other modes of education, or a comparison among these (Finlay et al., 2022).

Students' opinions on the pros/benefits of online education include time and space flexibility (Khan et al., 2022; Stewart & Lowenthal, 2021; Paudel, 2021), more time efficiency and inclusivity (Khan et al., 2022), reduced travel

(Finlay et al., 2022) and exercise of digital skills (Iqbal et al., 2022). Perceived cons/disadvantages mainly regard technical issues such as infrastructure and internet connection (Khan et al., 2022; Paudel, 2021), limited university support (Iqbal et al., 2022; Khan et al., 2022), negative feelings such as boredom/anxiety (Aristovnik et al., 2020; García-González et al., 2022), limited communication/interaction with teachers/peers (Stewart & Lowenthal, 2021; Zagkos et al., 2022), lack of lab sessions (Finlay et al., 2022), and health issues (Khan et al., 2022; Malik & Dahiya, 2021). Students' perceived benefits of hybrid education are often linked to combining the benefits of in-person and online education (e.g., socializing with fellow students in class and more focused at home for self-learning) (Lee et al., 2022; Li, 2022). Good use of practical sessions following theory is also reported as benefit (Finlay et al., 2022). Students' opinions/perspectives on the pros of face-to-face classes regard the easiness to concentrate when physically surrounded by classmates (Lee et al., 2022).

Regarding students' preferences on different modes of education, recent studies indicate strong preferences towards in-person learning (Iqbal et al., 2022; Pongkendek et al., 2021; Zapata-Cuervo et al., 2021;) and then blended learning (Finlay et al., 2022), in comparison to online learning; while they also perceive the blended learning model is an alternative one for the future (Li, 2022). More specifically, a study with students across the USA, South Korea, and Colombia (Zapata-Cuervo et al., 2021) indicated that although students were highly engaged in online learning, they perceived online learning was not so effective and rigorous compared to face-to-face learning. Iqbal et al. (2022) found that the majority of students in Pakistan would not like to opt for online classes in the future, after the end of the pandemic. Similarly, Greek students indicated their preference for face-to-face education stating that it cannot be replaced by online education, especially when it is linked to practical classes that require laboratory work/training (Zagkos et al., 2022). Chinese students believe that a blended model which combines both classroom and online modes is necessary for the post-pandemic era (Li, 2022); more than half of the sample did not take online classes as seriously as they take face-to-face ones, while online classes did not meet their expectations with regard to engagement. In the UK, sport science students perceived blended learning as superior to online/virtual learning (Finlay et al., 2022); students' perceptions were higher for blended as compared to online learning in terms of academic support, organization-management, learning resources, learning community, as well as assessment and feedback.

Student engagement and, in particular when they use digital technology has become a central aspect of higher education (Bond et al., 2020), while students' engagement with online classes was a challenge during the COVID-19 period (Salta et al., 2022; Stewart et al., 2022). Factors that affect university students' interest and motivation for engagement with online learning, as perceived by students, include teacher and teaching methods (Aristovnik et al., 2020; Iqbal et al., 2022; Malik & Dahiya, 2021; Stewart & Lowenthal, 2021), students' self-efficacy and anxiety (Zapata-Cuervo et al., 2021), the academic discipline (Aristovnik et al., 2020), online

activities (Li, 2022), and culture (Khan et al., 2022). For example, Iqbal et al. (2022) found that students were dissatisfied and demotivated as instructors did not facilitate them during online learning; facilitating was linked to timely/continuous feedback, instructor follow-up and motivation to improve students' academic performance. Also, online learning activities were reported to facilitate more participation and interaction with both peers and tutors (Li, 2022).

It is essential to continue university education during disruptions (pandemics, disasters, conflicts) and what we learn from the recent COVID-19 pandemic can be useful for the future. Although there is growing evidence with regard to the forced transition to online education during the COVID-19 pandemic, a smaller number of studies regard university students' perceptions on different modes of education or a comparison among these. In particular, literature on online education is sparse in the Greek higher education context, during the pandemic (Salta et al., 2022; Zacharis & Nikolopoulou, 2022; Zagkos et al., 2022). It is important to know students' perceptions-preferences in order to better plan the continuation and enhancement of university teaching and learning, in future crises situations and beyond. Considering the above, this study explored Greek university students' opinions and preferences regarding face-to-face, online, and blended modes of education, immediately after they returned back to face-to-face classes, i.e., after the students had experienced three academic semesters of online education due to the pandemic (March 2020-September 2021). The following research questions were addressed:

1. What are students' opinions on the pros and cons of face-to-face, online and hybrid education?
2. What type/mode of education (face-to-face, online, hybrid) do students prefer for the post-pandemic era?
3. What factors contributed to students' engagement with online education during the pandemic period?

METHOD

Sample and Procedure

Participants were recruited by using convenience sampling methods. The inclusion criteria required that students were in their third year of studies or above, so as their online learning experience was acquired solely at university (due to the duration of the pandemic, first- and second-year university students experienced online learning within the secondary school context). The sample of the study consisted of 24 students who are studying different academic subjects at different universities in Greece. **Table 1** indicates the characteristics of the sample (gender, age, year of study, and field of study). 18 students were women, six were men, the age range was 21-24 years old, 20 participants were in their 4th or 5th (final) year of study, and four students attended their 3rd year of study.

Students' participation was voluntary and ethical issues were considered in accordance with the general data protection regulation. All participants were informed about the nature of the study and were assured that should they wish

Table 1. Demographic characteristics of the sample (n=24)

Gender
Female (18)
Male (6)
Year of study
3rd year (4)
4th year (10)
5th year (10)
Age
21-22 (14)
23-24 (10)
Field of study
Education, social sciences (10)
Applied sciences (7)
Natural and life sciences (5)
Other (2)

to participate in the research, their comments and input would remain anonymous; they were also made aware that interviews would be recorded, while recordings and transcripts would not be disclosed to any third party. Official permission was obtained from the University's ethics research committee. To ensure anonymity and confidentiality, codes were used to conceal the participants' identity.

Research Instrument

The data were collected via interviews conducted in March and April 2022; i.e., after the students had returned back to face-to-face classes. All interviews were recorded via Zoom. The interview questions were guided by information emerging from research and were in line with this study's research questions. The interview questions were: What do you consider as the pros and cons of face-to-face, online and hybrid education? What type/mode of education (face-to-face, online, hybrid) would motivate you to be more engaged with your academic studies? What factors contributed to your engagement with online education during the pandemic period? It is noted that the first question was formulated in order to direct students more smoothly to the second question,

i.e., to express their preference on the type of education, after having mentioned perceived pros-cons for each mode.

Data Analysis

Content-thematic analysis was used, and the codes for the data analysis were descriptive. Through the process of coding, patterns of responses were used to inform themes and categories generated in line with their relevance to the research questions (Creswell, 2012). The interviews were initially transcribed; the transcribed texts were read several times before the beginning of the coding process. Then units of meaning (words/phrases) were identified, while after the first-round coding the level of abstraction was increased by identifying common themes. The results are presented according to the three research questions of the study. To ensure anonymity the codes S1-S24 are used for the students (S1: Student 1, S2: Student 2, etc.), within excerpts etc.

RESULTS

Students' Opinions on the Pros and Cons of Face-To-Face, Online and Hybrid Education

Students' perceived pros/advantages and cons/disadvantages of the three modes of education are presented in **Table 2**; the number of references is shown in parenthesis.

Perceived pros of face-to-face education include immediacy with teachers (16 references), socialization and interactions (14 references), as well as active participation of students and better communication-collaboration, while major perceived cons include more demanding timetable (nine references), minimal/no use of technology from teachers (nine references) and less free time. The major perceived benefit of online education was the time and space flexibility when studying from home (19 references), followed by familiarity with digital technology; the major disadvantage was related to technical problems such as bad (or loss of) internet

Table 2. Students' perceived pros and cons of the three modes of education (n=24)

Pros of face-to-face education	Cons of face-to-face education
Immediacy with teachers (16)	More demanding timetable (9)
Socialization and interactions (14)	Minimal/no use of technology (9)
Active participation of students (7)	Less free time (8)
Better communication and collaboration (6)	Distraction, noise in class (4)
Possibility for practical training (3)	Danger of virus spread (3)
Better assessment (2)	Lessons can be lost (3)
Pros of online education	**Cons of online education**
Time and space flexibility when studying from home (19)	Technical problems (e.g., bad or loss of internet connectivity) (18)
Familiarity with digital technology, learning new programs (8)	Loss of practical classes, lab-work (11)
Immediate tutors' response on queries (6)	Tutors had difficulties (at the beginning*) in handling platforms (10)
Increased concentration (4)	Minimal interactions with tutors/peers (10)
	Eye strain due to long time on screen (4)
Pros of hybrid education	**Cons of hybrid education**
Combines the benefits of online and face-to-face classes (11)	
Practical and suitable solution for specific cases (strikes, weather) (10)	Confused program of studies, difficulty in class organization (9)
Adaptability for working students (4)	Requires better teacher preparation (4)
Self-regulated (management of) learning (4)	Lack of familiarity with technology (3)
Greater equality in education (2)	

Note. At the beginning*: During the first year of the pandemic-1 academic semester (March 2020-May 2020)
Then: During the second year of the pandemic-2 academic semesters (October 2020-May 2021)

Table 3. Students' preferences of learning modes after the pandemic (n=24)

Preference	Number of students
Face-to-face education	12
Hybrid-blended education	10
In-person education for practical courses and online for theoretical lessons	8
Online education	2

connectivity (18 references), followed by loss of practical classes and lab-work (11 references), tutors' difficulties with the technology and minimal interactions with tutors/peers. Positive perceptions about hybrid education were often linked to combining the benefits of face-to-face and online education (minimizing the weaknesses of online learning) (11 references), while around half of the sample believe that hybrid education is a practical/appropriate solution for specific circumstances (e.g., bus strikes, bad weather conditions); a few cons were reported by students, such as confused program of studies. It is noted that 10 students did not attribute negative points to hybrid education.

Examples of excerpts on the pros and cons of face-to-face education were:

> "I think the pros are the immediacy you have with the teacher, the possibility of practical work, methodical course, and active participation" (S1).

> "Limited free time due to travel and noise during the lessons" (S2).

Students' opinions indicating examples of cons regarding online education were:

> "Tiring process (headaches, stinging eyes and back-pain from immobility), indifferent /boring lesson" (S13).

> "Poor network quality, connection difficulty, feelings of anxiety and fear" (S16).

Examples of statements regarding benefits of hybrid education include:

> "It solves practical issues (the cons of face to face and online education)" (S1).

> "Equality in education and contact with the school is not lost" (S4).

Students' perceived pros and cons of the different modes of education resulted from their educational experiences during the pandemic. Students had experienced online education for the first time and had prior experiences of traditional face-to-face classes; the first research question aimed to direct students to answer more smoothly the second research question regarding their preferences.

Students' Preferences on Type/Mode of Education (Face-To-Face, Online, Hybrid) for the Post-Pandemic Era

Student preferences (preferred choice) of learning mode(s) after the pandemic are shown in **Table 3**. Half of the sample (12 students) stated they prefer exclusively face-to-face education; 10 students expressed their preference for hybrid

education and only two students expressed preference for online education. With regard to hybrid education, one-third of the sample explained that they would prefer in-person education for practical/lab courses and online for the theoretical courses.

Face-to-face education was a strong preference among students. In parallel, preference for hybrid education and, in particular, online teaching for theoretical courses/lessons and in-person education for workshops/laboratories was highlighted by several students. Some participants shared:

> "The advantages of physical contact cannot be replaced by anything else. Although online learning is easy and accessible, face-to-face learning offers much more; interaction is the most important factor for a student's academic progress" (S4).

> "I think that face-to-face learning cannot be replaced. Nevertheless, hybrid education can work because it combines both types of education (face-to-face and online). Blended learning can be complementary and helpful. Some course replacements could be done online, in that way students will be less hours in university campus. Thus, the contact between the teacher and the student is not lost" (S3).

> "I definitely prefer in-person education. However, when for some reasons we cannot go at university campus (bus strikes, etc.) hybrid education is the best solution" (S10).

> "Hybrid education is the ideal, with e-learning for the theoretical part of the courses I consider it better...for practical workshops, and for exams in-person education is much better" (S18).

> "Hybrid education would motivate me more to get involved in academic studies, because courses that are not so practical -but theoretical- could be made in hybrid mode. This helps students who live away from university or are working" (S9).

> "I would like the theoretical lessons to be done remotely because at home you are more relaxed and focused, and the workshops (to be implemented) face-to-face" (S20).

One student expressed preference for fully online learning:

> "I would be more motivated by online learning, because due to time (availability) I could do many more personal activities and participate in more seminars related to my studies" (S14).

Table 4. Students' opinions on the factors that affected their engagement with online education (n=24)

Preference	Number of students
The lesson itself	10
The tutor, how attractive he made the lessons	9
Technical problems	6
Lack of physical contact	6
Use of mobile phone or laptop (flexible location)	4

Factors That Affected Students' Engagement with Online Education During the Pandemic Period

Table 4 indicates students' opinions on the factors that affected their engagement with online education during the pandemic. The lesson and the tutor (e.g., how attractive/interesting he made his lesson) were reported by around half of the sample. Other factors that negatively affected student engagement were the technical problems encountered and the lack of physical contact.

Examples of student excerpts were:

"I think the lesson itself. That is, whether it seemed interesting to me. Then the tutor. How the teacher taught, I think was crucial" (S1).

"The lesson, for example, during the first year we did not speak, only the teacher spoke, and we did not switch on the cameras… then (during the second year of the pandemic) it became a little more interesting in terms of the way the material was presented, we had the camera on, and we started to discuss…" (S24).

"Some teachers who tried hard to make the lesson more attractive and interesting and I liked to attend them. Those teachers I knew, and I knew how the lesson was done I wanted to attend them, and they motivated me to attend" (S8).

One participant shared:

"The use of the computer during the lesson also plays an important role as my subject (graphical design) deals only with computers now" (S12).

Another student noted that:

"The fact that my face was not visible increased my motivation for engaging with online learning, mainly through chat. I asked queries and solved questions through it" (S2).

DISCUSSION AND IMPLICATIONS

This study explored university students' opinions and preferences regarding face-to-face, online, and blended modes of education, after they had experienced fully/exclusively online education for three academic semesters due to the COVID-19 pandemic; their perceptions were investigated at a time when in-person teaching approach was implemented. The findings of this study, although not generalizable, add to the body of COVID-19 related evidence, in higher education. Understanding students' perspectives on different learning modes is expected to contribute to re-consideration of university educational policies in the post-pandemic period.

Regarding the 1st research question (what are students' opinions on the pros and cons of face-to-face, online, and blended education?) students indicated a variety of benefits and disadvantages, several of them being in line with earlier studies. Perceived pros of face-to-face education include immediacy with teachers, socialization and interactions, active participation of students and better communication-collaboration, while major perceived cons include more demanding timetable, minimal/no use of technology from teachers and less free time. In parallel, online classes were associated with benefits such as time and space flexibility and familiarity with digital technology. These perceived benefits are also documented in recent studies (Iqbal et al., 2022; Khan et al., 2022; Paudel, 2021; Stewart & Lowenthal, 2021). Perceived disadvantages such as technical problems and bad internet connectivity are reported by a number of studies (e.g., Iqbal et al., 2022; Khan et al., 2022; Paudel, 2021), while lack of lab/practical sessions was indicated by Finlay et al. (2022). With regard to hybrid education the participants noted as benefit the combination of the other modes (face-to-face and online), while around half of the sample believe that hybrid education is a practical solution for specific circumstances. This finding is in alignment with recent research with Singaporean (Lee et al., 2022) and Chinese (Li, 2022) students who perceive the benefits of hybrid learning approaches as a combination of benefits/advantages of face-to-face and online education. As stated earlier the first research question aimed to lead students to answer more smoothly the second research question, since they had not experienced hybrid education.

With regard to the 2nd research question (what type/mode of education do students prefer for the post-pandemic era?), students highlighted preference for both face-to-face and hybrid education. Although the preference for face-to-face education was strong (in agreement with the studies of Iqbal et al., 2022; Pongkendek et al., 2021; Zapata-Cuervo et al., 2021), students expressed their preference for hybrid education under circumstances (e.g., in-person education for practical/lab courses and online for the theoretical courses). Students' preference towards the hybrid-blended mode, was attributed to the affordances of combining the benefits of online and face-to-face classes. In line with Zagkos et al. (2022), Greek students prefer face-to-face education when it is linked to practical classes that require laboratory work/training. There is an agreement with Li (2022) who found that the majority of Chinese students believed classroom and online classes complement one another and are both important for future education. Similarly, Vital López et al. (2022) reported that 52% of Mexican students believe in-person classes are best approach to learning, but one-quarter of sample agreed that hybrid education will be effective.

With regard to the 3rd research question (what factors contributed to students' engagement with online education during the pandemic period?) around half of the sample reported the lesson and the tutor. The teacher and the teaching methods were perceived as factors affecting students' engagement in recent studies during the pandemic (Aristovnik et al., 2020; Iqbal et al., 2022; Malik & Dahiya, 2021; Stewart & Lowenthal, 2021). Disadvantages of online education such as technical problems and lack of physical contact acted as disengagement factors. Student engagement with online classes is associated with future implementation of online and/or hybrid modes of education.

Students' opinions-preferences regarding face-to-face, online, and blended modes of education (after they experienced full online education for three academic semesters, due to the pandemic) have implications for university practices and/or policies. Initially, undergraduate training is suggested to develop students' digital technology and communication-collaboration skills. For example, implementation of student workshops within the context of collaborative learning (Sachyani et al., 2022). Also, since students experienced online education, their preparedness to adopt (make the transition to) hybrid education has increased. The educational policies of the universities are suggested to be re-considered to (further) adopt hybrid-blended modes of education, and enhance organizational, technological, and academic management; in order for the universities to be prepared for potential future crises, emergencies, and uncertainties. The post-pandemic era will witness a new reality where a blended model that combines both classroom and online models might be adopted (Li, 2022). New learning environments (e.g., hybrid modes of education) should keep students' engagement-motivation for their academic studies; students' engagement with online education during the pandemic was a challenge. New demands arise for tutors such as organizing their courses and designing new learning materials. Online learning activities for theoretical classes/courses could be integrated in the educational process.

Regarding limitations of this study, students' responses might be biased or influenced by their overall satisfaction with online education. Since students' experiences are linked to their university, questions related to university profile and available support would have added additional value/context with regard to students' answers. Another limitation is that the analysis is simply descriptive and there was no collection of quantitative data. The administration of a questionnaire is suggested for future research. Future research could adopt a broader perspective by exploring perceptions of students from different countries, academic disciplines, and academic levels.

Exploring university students' opinions-preferences on face-to-face, online, and blended modes of education, is an ongoing research issue. After the pandemic and the forced full application of online education, the way is paved for more widespread implementation of the hybrid-blended learning mode in undergraduate classes/courses. This mode (meeting part of the time face-to-face at university campus and part of the time online) is particularly useful in times of disruption and crises. The rise of blended-hybrid modes and online distance education in higher education appears as a consequence of the COVID-19 pandemic (Bozkurt, 2022).

Future research could investigate possible influence of student characteristics (e.g., gender, academic discipline) on their beliefs-preferences. For example, the academic field of study was shown to affect students' perceptions in the time of COVID-19 (Gorghiu et al., 2021), and an association was reported between students' preference for the mode of study and the faculty where they are studying (Keane et al., 2022). Future studies could further explore students' (and teachers') readiness for hybrid education and digital-online pedagogies.

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