

Article

The Challenges Faced by Higher Education Students and Their Expectations during COVID-19 in Portugal

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Abstract: This article reports on a study about higher education students' perceptions of the teaching situation in Portugal during the pandemic, with the purpose of investigating: (i) what challenges did students feel?; (ii) how did institutions provide support to students?; and (iii) what expectations do students have about the continuity of their academic path and of higher education? The study was developed through a questionnaire distributed online and sent to the student associations. Quantitative data were analyzed using descriptive and frequency statistics. Additionally, a categorical content analysis was performed for the qualitative data. A total of 694 students participated in the study. The results show that the main challenges felt by the students were related to the assessment of learning, that higher education institutions were little or not prepared for an emergency, and that the support given to students was mostly through the professors. Most students felt that the pandemic will have quite an impact on their academic paths and on the organization and functioning of higher education, highlighting a belief in the adoption of online or blended learning. It was concluded that it is necessary to invest in pedagogical training for Portuguese higher education teachers, namely, to teach using digital technologies.

Keywords: higher education; emergency remote teaching; COVID-19 pandemic; students; learning; online teaching



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1. Introduction

In the year 2020, many challenges were faced due to the pandemic situation experienced worldwide caused by the disease COVID-19, with most governments deciding to close educational institutions to mitigate the spread of COVID-19 [1], which affected the academic paths of millions of students around the world of various ages and levels of education.

In higher education, institutions moved from typical face-to-face teaching to the development of online activities, with synchronous classes and asynchronous activities, entirely at a distance, without the presence of professors and students in the same space [2]. Everyone was connected to the academic activities from different physical environments, mostly their homes, making personal life environments converge with academic and/or professional life. It was thus possible to overcome the constraints to mobility imposed by the pandemic [3].

Overall, higher education institutions sought to implement plans to respond to the challenges caused by the pandemic crisis. However, this response was not uniform. The International Association of Universities Report [2] indicates that some institutions were better able to manage the online teaching-learning situation due to investments and previous experiences with distance teaching and learning. Implementing online teaching

and learning platforms requires preparation, training, and adequate resources [4] to try to minimize the effects of the absence of face-to-face interaction.

Typically, before the pandemic situation, the experiences and situations of distance learning in online digital environments were directed, above all, to adult and university audiences, being that in the latter case and in the Portuguese context, they were mainly restricted to Universidade Aberta, identifying the development, in different Portuguese higher education institutions (HEIs), of some undergraduate and postgraduate courses in this regime and some sporadic experiences related to short courses for various audiences.

During the emergency remote education (ERE) experiences, a great heterogeneity of effects of the pandemic on students' experiences and expectations was reported, with delays and losses identified at the level of graduations, internships, job offers, and salaries [5], but also weaknesses felt by students in the socio-emotional skills domain [6].

Despite the existence of several studies on ERE in higher education during this period, the students' perspective has been little explored, particularly in the Portuguese context. Therefore, it was considered relevant to study how students experienced this situation, with the purpose of knowing their perceptions about: (i) the challenges experienced during the pandemic; (ii) how higher education institutions provided them with support to deal with the academic challenges created by the calamity situation; and (iii) the expectations that students have about the continuity of their academic path and of higher education. Thus, a study was developed by collecting data through the distribution of an online questionnaire during the months from April to June 2020, sent to the student associations (SA) of higher education. During this period, in Portugal, all HEIs were closed, and all students were required to study online since 13 March 2020. The general population was required to stay at home and only go out for specific and necessary tasks, such as food shopping.

The theoretical and contextual background that frames the study is presented below, followed by the methodological procedures adopted, the results obtained, their discussion, and the conclusions.

2. Teaching with Digital Technologies

The emergency remote education during the pandemic, having been imposed and involuntary, came, in a matter of weeks, to force the digital change in an accelerated way and without any kind of preparation in terms of design or planning [7–11]. This situation has highlighted the persistent weaknesses in the field of digital education in the educational system as a whole and, at the same time, the delay in the use of digital technologies in education, especially in terms of teaching and learning, both by teachers and students.

It is known that the more occasions there are for teachers (and students) to use digital technologies, the more knowledge they acquire and the better their attitude towards such use is, e.g., [12,13]. However, in the global context of education with technologies, there has been a predominantly technology-driven concern that focuses essentially on digital skills, as if it were possible to separate them from the acquisition and development of other knowledge and other skills needed to teach. It is not by mastering the digital environment that the quality of teaching is improved. Teachers' professional knowledge [14], in particular 'curriculum knowledge' and 'pedagogical content knowledge' (alongside general pedagogical knowledge), needs to be considered with a view to teaching and learning with digital technologies. The way in which the use of digital technologies in the teaching-learning process is considered depends on this knowledge of teachers, as the decisions made by them and their pedagogical teams in each organizational context can make a difference in pedagogical and curricular terms and are crucial to improving the quality of the process and to improving teaching and learning.

Teaching with digital technologies implies, on the one hand, that teachers know how to select relevant and appropriate educational resources, including the selection of devices, tools, and digital resources appropriate to the curriculum they are designing, e.g., [15–17], and, on the other hand, that they know how to pedagogically organize ways to use these resources and the selected digital tools, in a contextualized way, to support

learning [18–20]. It is therefore a matter of considering technological pedagogical content knowledge according to the model proposed by Koehler and Mishra [21].

In a recent study that aimed to assess the level of digital skills for teaching by higher education professors in Portugal, through the online distribution of a self-reported questionnaire, based on DigCompEdu (a benchmark developed and validated in the European Union), it was found that the higher education teachers who participated in the research seem to have an intermediate level of proficiency in digital skills [22,23], and assessment (of learning) is the area with the lowest level of proficiency [23].

Research thus shows that teachers' learning and professional development in the field of education with digital technologies should focus on training processes centered on the pedagogical and curricular use of digital technologies in an integrated way, considering each teaching area, context, and organizational culture. It should promote the development of teachers' professional knowledge [14], particularly technological pedagogical content knowledge [21].

3. Research Questions

In order to study higher education students' perceptions of how they experienced the emergency remote education situation in Portugal, the study was guided by the following research questions: (i) what challenges did students in higher education experience during the pandemic?; (ii) how did HEIs provide support to students during the pandemic to deal with the academic challenges that the disaster situation created?; and (iii) what expectations do students have about the continuity of their academic path and that of higher education?

4. Methodology

To conduct the study, a questionnaire was developed and organized into two sections: the first regarding the experience during the period of confinement due to COVID-19 (Appendix A.1) and the second regarding the sociodemographic and socioacademic characterization. The questionnaire was created through the Google Forms platform and sent to the higher education student associations. Prior to sending, a database was prepared with a survey of 132 contacts from associations based on an online search. The questionnaire was active between April and June 2020, with an average duration of 15 min.

Data analysis was guided by the model presented in Table 1, with three objects: the challenges experienced by students, the role of HEIs during the pandemic, and students' expectations.

Table 1. Analysis model.

Objects	Dimensions
Challenges experienced by students	Academic Personal and social Institutional (organization and operation of HEIs)
HEIs' role during the pandemic	Preparation Assured support
Students' expectations	Academic pathway (Future of) higher education

Quantitative data were analyzed using the IBM SPSS program (version 26.0). The variables under study were characterized using descriptive statistics and frequencies.

Regarding qualitative data, a categorical content analysis was performed, based on Bardin's principles [24]. Thus, in a first phase, three of the authors developed a floating reading of the corpus of analysis (the totality of the answers to three open-ended questions in the questionnaire), identifying categories inductively. The theme (idea present in the answer) was assumed as the unit of register, the total of the participant's answer (in each question) as the unit of context, and the frequency of register units in each category was considered the unit of count. We had applied a categorical content analysis to the student

responses, complementing the analysis of the quantitative responses. This means, and this only applies to the qualitative data analysis, that we are not looking for the magnitude of the phenomenon (i.e., what is repeated and is homogeneous) but its singularities and meanings (i.e., intensity of the phenomenon) [25], because we want to complement and deepen our conclusions and understanding of the phenomenon. As Minayo [25] refers to, it is important to consider, when looking at the qualitative responses: "...never disregard unique information, which stands out and is not repeated, whose explanatory potential is important for the discovery of the internal logic of the studied group; [...] consider a sufficient number of interlocutors that promote recurrence and complementarity of information" (p. 3). Additionally, according to Hennink and Kaiser [26], we adopted as a saturation strategy the "code meaning" (p. 6), which is the complete understanding of the code, considering as many responses as needed and until any new references are made to the code, reaching at that point the saturation of the code.

The authors applied the defined categories to a sample of the responses, thus conducting a pre-test of the analysis independently. This pre-analysis was discussed, redefining categories when deemed necessary. This procedure was repeated a second time. Next, the elaborated system was submitted to a panel of education experts for stabilization. The three coders then moved on to coding all the material independently. To check the consistency of the coding, the intercoder agreement was calculated, considering 10% of the material coded by each one randomly. At that stage, the inconsistencies and divergences of coding identified were discussed, making changes until mutual agreement was reached. The operative description of categories can be found in the Appendix A (Appendix A.2).

4.1. Participants

A total of 694 higher education students participated in the study, and Table 2 shows their sociodemographic characteristics. Most participants were female (76.1%), single (88.9%), and had an average age of 24 years. To the question "What is your situation regarding the Corona virus (COVID-19)" most participants (52.6%) were in voluntary isolation at the time of the questionnaire.

Regarding socio-academic characteristics, 90.6% of the participants belong to public higher education and attend the 1st cycle of studies (79.5%). The scientific areas of the courses they attend are mostly Economics, Management, and Accounting (25.8%); Health (28.1%); and Law, Social Sciences, and Services (20.9%). Most of them are not student workers (72.8%).

Table 2. Sociodemographic characterization of the participants.

	f	%
Gender		
Female	528	23.9%
Male	166	76.1%
Marital Status		
Single	617	88.9
Married	65	9.4
Divorced	11	1.6
Widower(a)	1	0.1
Working-Student		
Yes	189	27.2
No	505	72.8

Table 2. *Cont.*

	f	%
Higher Education Institution		
Public	629	90.6%
Private	65	9.4%
Cycle of studies that you attend		
Degree	552	79.5
Master Degree	122	17.6
PhD	12	1.7
Post-graduation or specialization course	8	1.2
School year in which you are enrolled		
1	230	33.1
2	197	28.4
3	180	25.9
4	45	6.5
5	29	4.2
6	13	1.9
Scientific Area		
Health	174	25.1
Technology	69	10.0
Education and Training Sciences	33	4.8
Sciences	33	4.8
Agriculture and Natural Resources	4	0.6
Architecture, Fine Arts, and Design	15	2.2
Law, Social Sciences, and Services	145	21.0
Economics, Management, and Accounting	179	25.9
Humanities, Secretariat, and Translation	20	2.9
Physical Education, Sport, and Performing Arts	19	2.7

4.2. Ethical Considerations

The study was approved by the Ethics Committee of the NOVA Medical School, FCM-UNL (CEFCM) (no. 52/2020/CEFCM). The respondents were informed of the anonymous and confidential nature of the data to be collected, emphasizing that participation was voluntary and that there were no monetary or other penalties or rewards for participation.

5. Results

Participants were asked if they were in online classes and if they were receiving online monitoring and supervision (Appendix A.1). The answers show that 92.8% of students were taking online classes, and most students reported receiving online monitoring and supervision from faculty (80.5%).

5.1. Challenges Felt by Portuguese Higher Education Students during the Pandemic

The challenges that the students felt during the pandemic were of diverse nature, according to the answers given to one of the open questions, coded and categorized according to what is presented in Table 3. From the analysis of the answers given by the students, we can see that the challenges they expressed are predominantly of an academic nature, with a large difference in reference to personal and social challenges or to institutional challenges.

Table 3. Nature of the challenges felt by students during the pandemic.

Categories	Sub-Categories	<i>n</i>
1. Academic challenges experienced by students during the pandemic	1.1 Teaching approach	73
	1.2 Pedagogical monitoring and supervision	21
	1.3 Learning process	96
	1.4 Assessment of learning	163
	1.5 Pedagogical activities carried out in remote teaching	77
	1.6 Suspension of teaching activities	82
	1.7 Communication and interaction	3
	1.8 Pedagogical relationship	4
	1.9 Inequality(ies)	7
2. Personal and social challenges experienced by students during the pandemic	2.1 Motivation	18
	2.2 Routine(s)	12
	2.3 Health	6
	2.4 Interpersonal relationships	38
	2.5 Adapting to change	11
	2.6 Financial challenges	7
3. Institutional challenges	3.1 Mode of operation and organization of HEIs	9
	3.2 Quality of education	17
	3.3 HEI preparation	15
	3.4 Support given in HEIs	3
4. Absence of challenges or concerns caused by the pandemic		

5.1.1. Academic Challenges Experienced by Students

About academic challenges, the majority were related to challenges regarding the assessment of learning ($n = 163$). Students consider assessment of learning to be the main academic challenge, largely because they feel it has become “unfair” (ID230) and demanding. In their responses, students express this in various ways, mentioning “the change in the evaluation system” (ID15) because “[teachers] being so concerned about evaluations and any kind of action (such as copying), they ended up making super demanding evaluations that even with several hours of preparation were unfair and intended to harm all students” (ID79), also adding the “lack of new evaluation criteria taking into account the situation” (ID75). In addition, the students surveyed highlighted their concern about “fail[ing] to perform the evaluations of the practical component of subjects” (ID433) and about “the drop in my grade average and my achievement” (ID30).

In this regard, students make some suggestions, considering that “for an evaluation to be efficient, it is not necessary to do assignments every week [...]. Additionally, taking into account time management, the delivery of the respective assignments should be coordinated by all the disciplines” (ID164), suggesting “that the University [...] has to reduce its dependence on tests, and start incorporating evaluation methods based on oral tests and group work that allow a clear division of tasks” (ID164), “and therefore a restructuring is necessary, not only in the teaching methods of the classes, but also in the evaluation parameters” (ID151).

The second type of academic challenges most frequently mentioned by students is related to the learning process ($n = 96$), as they find some difficulties in self-regulation and independence in the management of learning and autonomy in the development of the academic work during the ERE period. They refer to “difficulty in adapting to self-study” (ID104) and “lack of structure for studying” (ID326), stressing that it is “more complicated to learn in classes outside classroom hours since students are easily distracted” (ID271). In particular, there is concern about “not acquiring the same knowledge that I would acquire if the pandemic did not exist” (ID695). In fact, the concern expressed by students for the success of their learning process is gradual and ranges from “not being able to learn the subject matter of the curricular units” (ID431) to “not being able to do the semester properly” (ID446) or not being able to “finish the course” (ID681).

The suspension of teaching activities ($n = 82$) worried the students due to the “lack of face-to-face classes” (ID48), specifically the “failure of practical classes” (ID45) and “laboratory” (ID112), and the “impossibility of doing an internship” (ID90). Students also felt that in this situation “the [...] possibility of Erasmus program [...] was taken away from me” (ID106) and that “many doubts are not clarified” (ID470). Closely linked to these challenges are the concerns regarding the nature of the teaching activities carried out in remote teaching ($n = 77$), namely “practical classes and internship” (ID316), “which cannot be replaced or replaced at a distance” (ID160), in particular “the practical component that many courses require, especially courses associated with healthcare” (ID337), thus constituting challenges mentioned by many respondents.

The teaching approach adopted during the ERE ($n = 73$) is another concern felt by many of the students, with references to challenges related to adapting to the teaching approach, the methods or strategies adopted by teachers, or the level of demand during the pandemic. When faced with the transition to emergency remote education, there was a need for students to adapt to another teaching modality with different methods and strategies used by teachers. In this category, students highlighted the “lack of preparation of teachers” (ID79) and the “inexperience [...] to teach remotely” (ID609). They also highlighted “the lack of adaptability of many teachers (ID61)”, the fact that “they are engaged to old and inefficient methods” (ID13), and that “[some teachers] do not care much about students’ needs” (ID557) or “do not show interest in helping students at a distance” (ID591). The students acknowledge “overwork on the part of teachers” (ID412) but consider that the “teachers demand too much” (ID587) and in a “...disproportionate way...” (ID573), as “they are asking for more work than usual in addition to the final evaluation work” (ID467). On the increase in demand, the students refer to the fact that “the demand is greater” (ID44) “because they think our lives are made easier” (ID554), which translates into “increased workload” (ID511) and “overloading the hours with videoconference classes, leaving no time for self-study or other leisure activities” (ID672).

Students consider that with the teaching approach adopted in online classes: (i) there has been a loss of information/training—“the loss of certain content that otherwise will not be able to be covered” (ID119), “I am not learning the practical part that is fundamental to my education” (ID441); (ii) the quality of learning has decreased, highlighting the “negative impact on learning by the little interaction between students and between students and teachers” (ID354), a “not so efficient way of learning for the professional path” (ID346), considering that “students are being harmed, since the online classes are terrible” (ID533), that there was a “decrease in the quality of teaching materials that students had access to” (ID31), and that the “practical classes [are] of lower quality, increasing the theoretical component” (ID614); (iii) the interaction between teachers and students changed, feeling “the lack of being able to interact face-to-face with the teacher” (ID78); (iv) the teaching methods adopted were not adequate to the context, as “the strategies adopted do not correspond to captivating teaching” (ID187), considering that the teaching modality “is not at all the best for learning” (ID546).

Regarding the challenges felt by the students about the follow-up and pedagogical supervision ($n = 21$) they received (or did not receive) from teachers during the pandemic, they refer to the “lack of support [...] and from the great majority of teachers” (ID312). Additionally, more specifically, “the lack of follow-up” (ID52). The “teachers’ lack of responsibility [...] towards the students” (ID265) and the “distance between the teachers” (ID270) contribute to this problem, but also, in the opinion of other students, “the lack of sharing of information and help among classmates and teachers [...]” (ID77).

Although fewer in number, students report other academic challenges, namely those concerning inequalities ($n = 7$)—“inequalities of opportunity” (ID184), “injustices” (ID189), considering that “it is not [...] an equal education [...]” (ID19) is an egalitarian education (some people are disadvantaged)” (ID322); also the pedagogical relationship ($n = 4$) developed within the teaching-learning environment between teacher and students, considering that there was “less interactivity with teachers” (ID278), who manifested “lack of under-

standing and closeness towards students" (ID318) and even "lack of empathy" (ID323); and also challenges concerning communication and interaction with teachers ($n = 3$), being challenging for students in particular "... teachers not being as able to communicate with us through a screen" (ID532).

5.1.2. Personal and Social Challenges Experienced by the Students

The students experienced personal and social challenges during the pandemic, among which challenges in terms of interpersonal relationships were mostly mentioned ($n = 38$): "the lack of contact with people" (ID49), the "decrease in social contacts, which resulted in mutual sharing of knowledge" (ID269), "socialization both with classmates and professors" (ID139), but also "the lack of academic side other than just studying" (ID73), because "higher education is not just about studies and classes, [...] higher education is supposed to be marked in our lives by the new friendships, the adventures, [...] the whole spirit itself in a university" (ID100).

Another challenge felt on a personal and social level was the lack of motivation ($n = 18$), for "studying, working, etc." (ID436), for "taking exams online" (ID514); associated with "lack of concentration" (ID305), "disinterest" (ID261), and "loss of interest" (ID611). Students also point to "demotivation from just being at home studying" (ID32).

Routines ($n = 12$), or rather "the lack of routine" (ID85), in particular "not having the routine of going to college" (ID475) and "not being able to establish a study routine" (ID528) because "not having schedules to be followed makes it more complicated to be organized" (ID447), constituted another type of challenge. The fact that the pandemic situation required adaptation to change ($n = 11$) was also a challenge indicated by the students, highlighting the "lack of adaptation to reality" (ID304).

Financial challenges ($n = 7$) and health ($n = 6$) were also mentioned as challenges on a personal and social level. Students indicated "the rent, the fees" (ID196), in particular "continuing to pay the fees while not in the educational institution" (ID253). As for health ($n = 6$), students report concern about "mental health" (ID103), "the state students are in [...] psychologically" (ID663), and the possibility of "a further increase in contagions" (ID130).

5.1.3. Challenges Felt by Students at the Institutional Level

In institutional terms, students identified several challenges related to the quality of education developed in the educational institution during the pandemic, the (lack of) preparation of HEIs for the situation, their mode of operation and organization, as well as the support given during the ERE. Regarding the quality of teaching ($n = 17$), the students consider that there has been a "fall, inevitable, in quality" (ID128) and, therefore, "students may be disadvantaged in education because they are unable to work at home" (ID559). They consider that with regard to the preparation of HEIs ($n = 15$) for emergency situations such as this, it was evident that "their lack of preparation and commitment to distance learning" (ID80), "the lack of capacity to respond to the new situation" (ID62), in particular the "reopening" (ID129) "without adequate safety measures" (ID140), and "the lack of capacity of the institution to understand what is reasonable for the students" (ID60). The way higher education institutions functioned ($n = 9$) highlighted their "lack of ability to adapt" (ID861), "lack of organization" (ID76), as well as the weakness of the support given ($n = 3$)—"lack of support from institutions" (ID312)—leading students to demonstrate their concern about the future, "the uncertainty and instability of when these will open" (ID94).

In turn, there were some students who considered that they felt no challenges or concerns caused by the pandemic, because from their perspective everything is or will be the same ($n = 49$). For example, they said, "Nothing worries me. It's a situation we don't control" (ID411), "it doesn't worry me because the classes I were supposed to take continued to be taught." (ID452), "because the evaluations have already been secured" (ID495), "we were able to access everything and have contact with the various departments and teachers" (ID255).

5.2. Role of Higher Education Institutions during the Pandemic

5.2.1. Preparing Higher Education Institutions to Deal with the Challenges Caused by the Pandemic

Table 4 shows the students' perception of the preparedness and adaptation of the higher education institution in relation to an emergency such as the COVID-19 pandemic outbreak. Regarding the preparedness of the institution and the degree of adaptation, on a scale of five points, 71.3% and 62.6% of the respondents, respectively, reported values between 3 and 4, showing some preparation and adaptation by the higher education institution. Nevertheless, 20.2% of students perceived that higher education institutions were not prepared at all.

Table 4. Students' perceptions of the preparedness and adaptation of the higher education institution in relation to an emergency such as the pandemic COVID-19.

	What Was the Level of Preparation		What Was the Level of Adaptation	
	Frequency	%	Frequency	%
1. Not at all prepared	140	20.1	49	7.2
2.	160	23.1	112	16.1
3.	194	28.0	205	29.5
4.	141	20.3	230	33.1
5. Fully Prepared	59	8.5	98	14.1
Total	694	100.0	694	100.0

5.2.2. Support for Students Provided by Higher Education Institutions to Deal with the Challenges Caused by the Pandemic

Table 5 summarizes the results regarding the support given by the higher education institution and the professors during emergency remote teaching, showing a slightly higher level of agreement regarding availability and support from the professors.

Table 5. Students' perceptions of the support given by the higher education institution and the professors during emergency remote teaching.

	My Higher Education Institution				My Teachers			
	Has Been Available to Help and Support Me		Has Always Looked Out for the Best for All Students		Have Been Available to Help Me		Have Always Looked Out for the Best for All Students	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Strongly Disagree	79	11.4	94	13.6	39	5.6	73	10.5
Partially Disagree	89	12.8	102	14.7	89	12.8	103	14.9
I neither agree nor disagree	230	33.2	188	27.1	152	21.9	185	26.7
Partly Agree	191	27.6	186	26.8	255	36.8	188	27.1
I strongly agree	104	15.0	123	17.8	158	22.9	144	20.8
Total	693	100.0	693	100.0	693	100.0	693	100.0

5.3. Students' Expectations Regarding Their Academic Pathway and Future in Higher Education

Considering the students' perceptions about the impact that the COVID-19 pandemic will have on their academic pathway, it appears that most of the respondents (76.3%) consider that the pandemic will have between a high and high impact on their academic pathway (Table 6).

From the qualitative analysis of the students' answers to the open-ended question, "what will change in higher education as a result of this pandemic?" (Table 7) shows that the majority ($n = 551$) consider that the pandemic will leave its mark on higher education (HE), a small proportion of students ($n = 76$) consider that nothing will change in HE, and some ($n = 61$) do not know if there will be changes (six respondents did not answer this question).

Table 6. Impact of the pandemic on students' academic pathways.

	Frequency	%
1. No impact	14	2.0
2. Will have little impact	35	5.0
3. Will have impact	116	16.7
4. Will have a lot of impact	230	33.2
5. Will have high impact	299	43.1
Total	694	100.0

Table 7. Changes in higher education due to the pandemic.

Sub-Categories	<i>n</i>
5. Teaching modality and methodology	312
6. Learning and students	45
7. Organization and operation of HEIs	111
8. Health, Hygiene, and Safety	62
9. Other changes (personal and social)	70
10. Changes in general	23
11. No changes	76
12. Do not know	61
13. No answer	6

With regard to those respondents who consider that there will be changes in higher education as a result of the pandemic ($n = 551$), some consider that everything or almost everything will change (sub-category “changes in general”): “everything, because we want normality, but the fact [is] that nothing is normal, and I think [there is] a lot of misinformation” (ID752), even if it is a temporary change: “everything, at least in the first months of the next academic year” (ID1488). However, there are also a significant number of students who feel that nothing ($n = 64$) or almost nothing ($n = 12$) will change in HE because of the pandemic, as well as students who do not know if there will be changes ($n = 61$).

5.3.1. Changes in Higher Education in Terms of Teaching Methods and Methodologies

Most students who consider that there will be changes tend, however, to position themselves in a more specific way, specifying at what level the expected changes will take place. Among the changes identified, most students highlight those that will occur at the level of teaching methods and methodologies ($n = 312$), highlighting their belief in the adoption of distance learning (online learning) as the modality that will become predominant in higher education. This is a change perceived as positive by students, since they consider that “it will be more efficient, because we will have the chance to have classes without having to travel, giving more time to a person to do more things for those who work and who are far from the institution” (ID820), with “more options for online study” (ID1625).

Other respondents believe that in the future mixed teaching will be the norm ($n = 52$), with a combination of face-to-face and online classes, which may vary in their organization and typology. They consider that there will be “greater exploration of non-face-to-face teaching” (ID159) because “they will realize that there are class formats that do not require physical presence” (ID224), especially with “the change from face-to-face lectures to recorded lectures” (ID193). This combination of online and face-to-face classes is associated with advantages, namely the reduction of travel, the adaptation of student workloads, and the needs of different student profiles, namely “choose to balance (...) between online and face-to-face teaching. Do not overload students with attendance (...), considering the work/projects developed” (ID1778), and there are “more non-face-to-face classes that, when recorded, will be of great help to student-workers” (ID721). In this domain, some students value face-to-face teaching, considering it “very important for learning” (ID1166).

Regardless of whether the classes are face-to-face or through distance learning, students have the expectation of, on the one hand, changes being made in teaching methods

and strategies, as well as in the organization of classes ($n = 69$). In particular, “the dynamics of classes and activities” (ID739), making them more flexible and “more dynamic” (ID855), with the “updating of teaching forms and channels” (ID995), additionally, on the other hand, they observed the integration of digital in HE ($n = 63$), with the possibility of experimenting with various forms of teaching and learning using digital technologies, devices, tools, and resources, considering that this could bring added value: “increase in the effective use of digital platforms (ID318); “the digital transition of higher education will be boosted, with more classes in digital format” (ID319); with the “improvement of electronic study resources” (ID187); and “several tasks can be done online” (ID219).

In line with expectations about changes in teaching methodologies, respondents also expect (or desire) changes in learning assessment methods and strategies ($n = 35$). Three trends can be perceived here, standing out: (i) students who believe that assessment will change, without specifying in what way; (ii) students who are afraid of the way assessment will be carried out in a pandemic and distance learning context; and (iii) students who are hopeful about the change in the assessment system in HE and value learning.

5.3.2. Changes in Higher Education at the Level of Organization and Operation of HEIs

Among the changes that respondents consider will exist in higher education as a result of the pandemic, in second place come changes at the level of the organization and functioning of HEIs ($n = 111$), indicating general changes in their functioning, but also more specific changes, namely: course redesign ($n = 31$), preparation of HEIs for future pandemic situations ($n = 30$), reorganization of class groups ($n = 14$), reconfiguration of the role of the teacher in HE ($n = 8$), training and preparation of teachers ($n = 8$), change of the academic calendar ($n = 7$), and change of academic events ($n = 5$).

In terms of general changes in the functioning of HEIs, students consider, for example, that there will be “updating the design of interior spaces for teaching or study” (ID1575). As for the reformulation of courses, students anticipate changes in the curricula, namely “course units for each year” (ID748) and “more flexible timetables” (ID887).

Regarding the HEIs’ preparation for future pandemic situations, the respondents mentioned the existence of a “pre-defined strategy outlined for a future eventuality like this one” (ID147), namely regarding teaching equipment and platforms through the creation of “contingency plans” (ID140), plans that include guaranteeing training for people as well as rethinking procedures, namely in terms of assessment, “promoting a fair and balanced system, while assessing the competences required to pass the subjects” (ID955). Regarding the reorganization of the class groups, the students consider that the classes will be reorganized, “reduced” (ID1472), with “more practices classes” (ID436).

Concerning the changes related to the reconfiguration of the teacher’s role in HE and teacher training and preparation, some students highlight the need for teachers to develop skills to deal with online teaching and digital technologies, skills that some students consider that teachers do not have “because they mostly did not know how to adapt to this new reality” (ID1198). Additionally, they consider that the profile and functions of the higher education teacher will change, with “more often questioning the usefulness of some teachers in the education system” (ID17), “the commitment of teachers” (ID1195), and emphasizing that “the difference between teachers will become more accentuated” (ID134).

Students also consider that there will be changes in the academic calendar, namely with “a possible overload with regard to the workload in the following years in order to make up for lost or delayed academic content” (ID1575); as well as changes in academic events, with the “end of social or academic events associated with higher education such as [...] school year opening ceremonies, hazing” (ID1575).

5.3.3. Health, Hygiene, and Safety Changes in Higher Education

Another idea that emerges in the students’ answers and that seems close to the changes regarding the functioning of the HEIs are changes related to health, hygiene, and safety, which reflect the belief in the adoption of preventive and protective measures. There are,

specifically, references to the adoption of hygiene measures at the level of the institution and of people, with “habits of personal hygiene and of the facilities” (ID343), as well as “greater security and more distance” (ID780), considering otherwise the “arrangement of students in the rooms” (ID907). Respondents also consider that “schools will have to have better conditions and adequate to the number of students they accommodate” (ID1087).

5.3.4. Changes in Higher Education in Terms of Student Learning

The students surveyed consider that the changes in higher education due to the pandemic will also occur at the level of their learning ($n = 45$), that is, in terms of the quality of the learning undertaken ($n = 20$), the changes in their learning and training processes ($n = 16$), their autonomy ($n = 4$), and their adaptation to different teaching and learning methodologies ($n = 4$).

The students consider that the quality of learning in ES will deteriorate because “students will not feel prepared at all” (ID686), “many students will find it difficult to learn certain subjects” (ID1523), which will lead to “much lower student achievement” (ID509) and “most students will be retained” (ID1602).

Regarding the changes in their learning and training process, one of the most frequently mentioned ideas is related to changes in the “learning method” (ID1265) adopted by students and in the “way of learning” (ID672), considering that in the future there will be “more material to study” (ID578) and a higher “level of demand and workload” (ID519).

In terms of changes related to their autonomy and adaptation to different teaching and learning methodologies, students refer to their forms of “organization” (ID667) and “study and work methods” (ID1307), considering that “student autonomy will be further enhanced” (ID217), namely “in study organization” (ID1796).

6. Discussion and Conclusions

The results show that the main challenges experienced by students were at the academic, personal, social, and institutional levels. In academic terms, the challenges felt by most of the respondents were related to the evaluation of learning, according to data that corroborate the results obtained in the research conducted by Santos, Pedro, and Mattar [23], which highlighted that the area with the lowest level of proficiency on the part of higher education teachers in digital skills for teaching is evaluation. In personal and social terms, the challenges were related to interpersonal relationships and the decrease or lack of socialization with colleagues and teachers. Additionally, in institutional terms, aspects related to the quality of the teaching developed in the institution due to the lack of preparation for the situation and its mode of operation and organization were mentioned. It was highlighted that there was a lack of preparation among teachers to teach online using various digital technologies, which is in line with results obtained in other studies [22,23]. The students considered that the higher education institutions had little or no preparation for an emergency such as the pandemic situation and that the support given to students was greater from the professors individually than from the institutions and their services or structures. These data confirm the need for adequate preparation, training and resources for online teaching as has been highlighted in research in this field [4].

Regarding the effects of the pandemic on the students’ academic career and on the organization and functioning of higher education, most students considered that there would be many effects, highlighting changes in teaching methods and methodologies and the belief in the adoption of online or blended learning. Regardless of whether classes are face-to-face or via distance learning, students believe that there may be changes in teaching methods and strategies and in the organization of classes. These data reveal that the experience had during emergency remote teaching could be an impetus for the online teaching modality to be integrated as a supplement (rather than a replacement) to traditional face-to-face teaching [10]. The respondents consider that the changes resulting from the pandemic will also occur at the level of the quality of the learning performed, with changes in their training process, which in their view will translate into more work, less skill development, and more failures, which is in line with the results obtained in the

work of Aucejo et al. [5], which identified delays and losses at the level of graduations and internships. The students also emphasize the need to restructure the physical spaces in the institutions, namely those dedicated to teaching and studying, which reinforces the students' belief in the need for major interventions in the HEIs' facilities as a consequence of the pandemic. These results need to be read within the context and circumstances in which they were collected, an early phase of the pandemic during which physical distance was key. As the pandemic progressed, that perspective dissipated.

Overall, the results obtained are in line with the conclusions of other studies developed in Portugal on higher education during the pandemic, e.g., [27,28], which highlight that the main constraints revealed by students are of a pedagogical nature, related to the teaching approaches and strategies adopted by teachers in the pedagogical and curricular management of the work developed online, its quality, the monitoring of students and pedagogical supervision, and the evaluation of learning. In this domain, it is important to note that, in Portugal, to teach and to be a teacher in higher education does not require any pedagogical training or preparation, which contrasts with what the research in this field invokes—the need for specific and specialized training for academics, e.g., [29–33]. Additionally, therefore, knowledge and skills necessary to teach are not acquired and developed by higher education teachers [14], either in terms of general pedagogical knowledge or in specific domains of knowledge (curriculum knowledge, pedagogical content knowledge, technological pedagogical content knowledge, among others) [21].

With the experience of remote emergency teaching, it seems that more teachers and higher education institutions may recognize (other) potentialities of the digital for teaching and learning, especially regarding teaching activities. This may constitute a driving situation for the digital transformation of higher education, making it important to take care of the ways in which teaching and learning situations based on digital and online contexts will be designed, namely in terms of curricular and pedagogical design and development, as well as their complementarity with face-to-face contexts, enriched with the use of digital and virtual environments and resources.

In summary, the results obtained reinforce the need to invest in the development of higher education pedagogy in Portugal and to analyze the ways of integrating digital technology into pedagogical practices to improve students' learning and training. If, before the pandemic situation, research highlighted the importance of rethinking how digital is used in higher education and developing critical perspectives and alternative visions [34], it is now important to do so in a thoughtful and reflective way, leading to relevant changes in practice as well as in policy and institutional measures. The reflection and critical analysis to be made on what is learned for the near future should be collective and collaborative in different forums and discussion groups.

The conclusions here presented should be read according to the methodological characteristics of the study, namely that it is a survey based on students' perceptions of the teaching situation in Portugal during the first period of lockdown during the pandemic situation. There are, therefore, some limitations to the outcomes. Although it was not the focus of this study, looking at the literature, we know that access to digital devices and Internet connections vary in the various regions of the country, so the students' experience was different, namely due to socioeconomic difficulties and difficulties in accessing the Internet network, which varies by area of the country (despite Portugal being one of the countries with the best network coverage). These difficulties may also have conditioned students' access to the questionnaire. Those who responded were students who had access to the Internet.

The fact that students were completing the questionnaire so early makes it seem likely that their views might be different further into the pandemic. However, the fact that the data were collected at an early stage of the pandemic is also an aspect that distinguishes this study from others that collected data at a later phase of the pandemic, namely in Portugal, leading to complementarity of results.

It would also be interesting to develop further studies about the changes identified in the teaching developed in HEIs in Portugal after the return to face-to-face classes.

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Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki, and approved by the Institutional Review Board (or Ethics Committee) of the NOVA Medical School, FCM-UNL (CEFCM) (no. 52/2020/CEFCM) for studies involving humans.

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Appendix A

Appendix A.1. Questions Regarding Experience during the First Period of Confinement Due to COVID-19

What is your situation regarding the coronavirus (COVID-19). Check the options that apply:

- ☐ I am a health, safety, transport, or food professional;
- ☐ I belong to a risk group (chronic diseases, over 70 years old);
- ☐ I am infected, I have already taken the test;
- ☐ I think I am infected, but I did not get tested;
- ☐ I am flagged or being accompanied;
- ☐ I know infected people;
- ☐ I am in quarantine;
- ☐ I know people in quarantine;
- ☐ I am in voluntary isolation;
- ☐ None of the previous.

In your opinion, what impact will the COVID-19 pandemic have on your educational path?

No impact 1 2 3 4 5 High impact

In your opinion, what was the degree of preparation at your higher education institution in relation to the COVID-19 epidemic outbreak?

Not at all prepared 1 2 3 4 5 Completely prepared

In your opinion, what is the current degree of adaptation at your higher education institution in relation to the COVID-19 epidemic outbreak?

Not at all adapted 1 2 3 4 5 Completely adapted

Are you taking classes online?:

- ☐ Yes;
- ☐ No.

Are you under online monitoring and supervision by teachers/supervisors?:

- ☐ Yes;
- ☐ No.

My higher education institution has been available to help and support me:

- ☐ Totally disagree;
- ☐ Disagree in part;
- ☐ Do not agree nor disagree;
- ☐ Agree in part;

- ☐ Totally agree.
My higher education institution has always looked out for the best for all students:
- ☐ Totally disagree;
☐ Disagree in part;
☐ Do not agree nor disagree;
☐ Agree in part;
☐ Totally agree.
- My teachers have been available to help me:
- ☐ Totally disagree;
☐ Disagree in part;
☐ Do not agree nor disagree;
☐ Agree in part;
☐ Totally agree.
- My teachers have always looked out for the best for all students:
- ☐ Totally disagree;
☐ Disagree in part;
☐ Do not agree nor disagree;
☐ Agree in part;
☐ Totally agree.
- In your opinion, what will change in higher education as a result of this pandemic?

Appendix A.2

Table A1. Categorical content analysis—example of the operative description of category “challenges experienced by students”.

Sub-Categories	Indicators	Code	Description
1. Academic challenges felt by students during the pandemic	1.1 Teaching approach	AES	References to challenges related to adapting the teaching approach, teachers’ methods and strategies, the level of demand during the pandemic, and emergency remote teaching.
	1.2 Pedagogical monitoring and supervision	ASP	References to the pedagogical monitoring and supervision given, or lack thereof, by teachers during the pandemic.
	1.3 Learning process	PAP	References to challenges related to the learning process (focusing on the student), self-regulation and independence in the management of autonomous work, management of work during the pandemic, and emergency remote teaching.
	1.4 Assessment of learning	AVA	References to challenges related to the learning assessment, learning assessment methods, and criteria.
	1.5 Pedagogical activities carried out in remote teaching	AER	References to changes/differences in activities developed in remote teaching (practices, laboratory, classes in real context, etc.) vs. face-to-face teaching include references to workload.
	1.6 Interruption of pedagogical activities	SAT	References to activities that were no longer carried out, that were suspended, or that changed in their functioning due to the closure of the HEIs/pandemic situation (e.g., internships, practices, etc.)
	1.7 Communication and interaction	CIT	Explicit references to forms of communication and interactions between teachers and students and between students during the pandemic (or its absence and failures).

Table A1. Cont.

Sub-Categories	Indicators	Code	Description
2. Personal and social challenges experienced by students during the pandemic	1.8 Pedagogical relationship	RPD	References to the pedagogical relationship developed within the teaching and learning environment between teacher and students, student-students; modes of development in a digital environment during the emergency remote teaching.
	1.9 Inequality(ies)	DIG	References to situations related to inequality—different forms of inequality in academic terms—felt in teaching activities that are related to academic activity.
	2.1 Motivation	MTV	References to aspects related to motivation and/or demotivation, in personal or global terms, of students and society in general.
	2.2 Routine(s)	RTN	References to aspects related to the routine or lack of routine activities of daily, personal, and social.
	2.3 Health	PSD	References to aspects related to personal health and/or that of family members, friends, and society with regard to health problems.
	2.4 Interpersonal relationships	RIP	References to aspects related to interpersonal relationships or the lack of them.
3. Institutional Challenges	2.5 Adaptation to change	MDC	References to adaptation processes to the situation caused by the pandemic in personal and/or social terms that go beyond the school/academic dimension, difficulties in adapting to changes.
	2.6 Financial challenges	DFN	References to aspects related to financial difficulties or challenges posed due to the financial situation.
	3.1 HEI's functioning and organization	FOG	References to aspects related to the HEI's functioning and organization during the pandemic and emergency remote teaching.
	3.2 Quality of teaching	QEN	References to concerns about the quality of teaching, academic training, due to the pandemic situation and emergency remote teaching (an institutional domain and not just the teaching done by each teacher, as it is something broader), institutional decisions and options on the functioning of classes, and resources and conditions necessary for teaching.
4. Lack of challenges or concerns caused by the pandemic	3.3 HEI's Preparation	PRP	References to the level of preparation of HEIs to deal with the challenges that the pandemic situation has created, ensuring the continuity of essential academic activities.
	3.4 Support provided by HEIs	SUP	References to the support provided by HEIs during the pandemic situation to ensure emergency remote teaching and the continuity of essential academic activities.
Do not know		NS	
Do not reply		NR	

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