Distance Learning Perceptions from Higher Education Students—The Case of Portugal

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Abstract: This research study examines the attitudes of Portuguese higher education students regarding compulsory digital and distance learning university courses during the second semester of the academic year 2019–2020 during the COVID-19 pandemic. The methodology was quantitative, being the undergraduate and postgraduate students surveyed to find their perceptions about distance and online education in Portugal. The findings of the study highlighted the relationship between distance and online learning. The key concern of the respondents is related to the formal and contextual dimensions of the online class regime. The values examined, taken as a whole, allow us to conclude that with this teaching regime, in terms of awareness, there is acceptance and benefit. The sense of ambiguity in which this transformation took place, as well as the climate surrounding this phase, are worth noting. The teaching and evaluation methodologies used have been embraced and show a very wide range of choices on the part of the teaching teams and the students' various interests, just as in the teaching regime of the classroom. The fact that students feel the need for face-to-face classes, however, is of great importance for practical and laboratory classes. This reality, which is a challenge to face in the future, is hard to overcome.

Keywords: distance learning; higher education; online learning; digital pedagogies; students

1. Introduction

1.1. Conceptualization of Distance and Online Learning

In the literature, distance and online learning is a dynamic concept with several different interpretations. Some characterize digital learning with unexpected outcomes as an unplanned and implied process [1–3] utilizing many types of technical devices, such as smartphones, tablets, computers, and others. In the context of this definition, this study aims to analyze the impacts of distance learning on students during the COVID-19 pandemic in the second semester of the academic year 2019–2020, but also the process itself. The goal during that period was to limit meetings involving physical contact in an effort to reduce the spread of the COVID-19 virus. These conditions had implications for the effectiveness of the learning process in higher education [4,5].

In literature, based on diverse studies realized during 2020, the main platforms used to teach was Zoom, Microsoft Teams, and Google Classroom, and the classes become to be too intense for the students, with too many assignments, and a big concern related to laboratory classes. However, activities as Chatting, Forum, Choice, and Assignment, could be more structured, and used as a support for the

distance learning process, but were not implemented as it should be to facilitate the learning process and to increase the learning outcomes [6,7].

1.2. Distance Learning in a Pandemic Context

The possibilities of increasingly interactive resources in the globalized world have changed the concept of communication and the sharing of education linked to innovative technologies. Since the technology linked to communication contributes to access to education and this has been expanded through digital communication networks. The innumerous paths are taken by innovation linked to technology point to different realities and orientations in the process, new methods in the educational context [4]. Over the years educational methodologies and methods have shifted. Today, in addition to expanding its output and thereby supporting people with disabilities, the instructor has engagement technology, such as interactive boards, online conferences, and other resources to strengthen the teaching and learning process [2,3]. The development of technology has been inspired by many of the "new" ways of learning and teaching. Digital instruments have contributed to the increasing development and distribution of information as strategies that provide tools. The Internet allowed new forms of computer-based learning, with virtual classrooms [8], a scenario guided by technology convergence that brought about revolutionary elements of learning, as it was characterized by the availability of texts, audio, and video on the same communication channel [1], allowing geographical, temporal and above all, communication barriers to be transposed. In a pandemic global situation, people are digitally linked in a knowledge-based society [9], living an educational scenario where digital education is nuclear to all levels of formal education.

Some concerns about distance learning in the pandemic situation includes the analysis of the following variables: [1–3] impacts on the academic journey; study schedule; place of study; moments of isolation; level of preparation; level of adaptation; satisfaction with the online classes format; and study time involved in the online learning process.

1.3. Contexts, Pedagogies, and Tools for Distance Learning

To involve students in the learning process, educators use technology, and several studies have shown signs of increased interest in learning when interactive technologies are integrated into the learning environment. It is possible to describe the pedagogical strategies to use innovations in the educational context as [8,9]: Open strategy, which provides access to information and knowledge creation for all with an emphasis on versatile content; Constructive strategy, which combines openness with its progressive construction to new spaces of knowledge; and Interactive strategy, which presupposes the development of the interactive processes that occur in the virtual environment.

Any pedagogy involving distance learning technologies must explore the different potentialities of these technologies: context, mobility, informality, appropriation of the tool by the student. They offer greater control and autonomy over learning itself [4–6]. Furthermore, it enables learning in context, that is, at the place, time, and under the conditions that the student deems most appropriate. It also allows continuity and connectivity between contexts [7]. For example, while the student moves in a certain area or during an event, he may be in constant contact and connected with his peers and with didactic content. Finally, it contributes to spontaneity and opportunism in the learning process, since the learner can take advantage of times, spaces, and any opportunities to learn spontaneously, according to his interests and needs [5].

In distance learning contexts, students are required a great degree of autonomy, passing on to them a great responsibility for their learning [6,7]. Learning situations are influenced by several factors [6,7]: (a) the professor is a facilitator of learning, assuming several roles simultaneously: moderator, participant, and observer; (b) the student that interacts with the professor and also with the other elements of the learning group; (c) space and time for carrying out learning in a global perspective, depending on the learning needs of each one; (d) the context of the learning that must be directed towards the student's needs.

The main contexts of learning present in the literature are very diverse, as presented in the following Table 1:

Table 1. Distance and online learning technologies and pedagogies.

Distance and Online Learning	Authors
Online Learning Tools	
• E-mail • Smartphone/Videochat • International Communication Platform (e.g., Zoom, Google Hangouts …) • E-Learning Platform or a similar tool • Communication facilitators • Conference Calls • Chat – chatroom • Conferences (video and audio) • Electronic Mail • Discussion forums	[10] Barber, W.; King S.; Buchanan, S. (2015) [11] Sousa, M.J.; Rocha, Á. (2019) [12] Liyanagunawardena, T.; Lundgvist, K.; Williams, S. A. (2015) [13] Liwen, C.; Tung-Liang, C.; Nian-Shing, C. (2015) [14] Masterman, E. (2016) [15] Salmon, G.; Gregory, J.; Lokuge, D. K.; Ross, B. (2015) [16] Sohrabi and H. Iraj, (2016) [17] Stewart, B. (2015) [18] Thibaut, P.; Curwood, J. S.; Carvalho, L.; Simpson, S. (2015) [19] Trotskovsky and Sabag, N. (2015)
Equipment	
• Desktop computer • Laptop • Tablet • Smartphone	[15] Salmon, G.; Gregory, J.; Lokuge, D.; Ross, B. (2015) [17] Stewart, B. (2015) [20] Xu, H. (2016) [21] McNaughton, S. M.; Westberry, N. C.; Billiot, J. M.; Gaeta, H. (2014) [22] Martin-Garcia, M. Serrano and Gomez, M (2014) [23] Sungkur, R. K.; Panchoo, A.; Bhoyroo, N. K. (2016) [24] Tena, R. R.; Almenara, J. C.; Osuna, J. B. (2016)
Pedagogical Techniques	
• Clarification sessions • Availability of pedagogical materials in video format • Availability of pedagogical materials in text format • Group work • Individual work • Small groups discussion • Availability of pedagogical materials in audio format • Large groups discussion • Pedagogical games • Simulations/role play • Case studie	[8] Sousa, M.J; Cruz, R.; Martins. J.M. (2017) [10] Barber, W.; King S.; Buchanan, S. (2015) [25] Friend, J.; Militello, M. (2014) [26] Guzman, G.; Hernandez, M.; Pirez, R. (2014) [27] Kosonen, K.; Ilomaki, L.; Lakkala, M., (2015) [28] Lau, K. H. (2014) [29] Mantri, A. (2014) [30] Moorefielf-Lang H.; Hall, T. (2015) [23] Sungkur, R. K.; Panchoo, A.; Bhoyroo, N. K. (2016) [31] Munoz Gonzales, J. M.; Rubio, S. G.; Pichardo, M. C. (2015) [32] Nielsen W.: Hoban, G. (2015) [33] Rai, S. S.; Gaikwad, A. T.; Kulkarni, R. V. A (2014) [34] Rudow, J.; Sounny-Slitine, M. A. (2015) [35] Stansbury, J. A.; Earnest., D. R. (2017) [36] Unger; R.; Kulhavy, D. L.; Busch-Petersen, K.; Hung, I.-K. (2016) [37] Wood D.; Bilsborow, C. (2014)

Table 2 presents the possible evaluation methods of distance learning, identifying in the analysis of the literature:

Table 2. Evaluation Process on Distance Learning in Higher Education.

Evaluation method	Authors
• Face-to-face • Online through individual work • Online through group work • Online tests	[23] Sungkur, R. K.; Panchoo, A.; Bhoyroo, N. K. (2016) [25] Friend, J.; Militello, M. (2014) [27] Kosonen, K.; Ilomaki, L.; Lakkala, M., (2015) [32] Nielsen W.: Hoban, G. (2015) [35] Stansbury, J. A.; Earnest., D. R. (2017) [37] Wood D.; Bilsborow, C. (2014)

All the tools present in Tables 1 and 2 can be used in learning contexts by contributing to facilitate student learning process, and toward the improvement of academic results. However, in the following analysis, it is possible to see that the students didn't use the potentialities of these tools as the pandemic situation created a special context that affected their application.

1.4. Obstacles Involved in the Online Learning Process

Distance learning also has several obstacles, of which the following refer [38]

1. Less student/teacher interaction, as the interaction of the student/teacher, becomes reduced since the communication is made via the Internet, originating as such a physical and/or temporal distance.
2. Less motivation and rhythm drive a lack of concentration and a lack of students' interaction.
3. It requires more time in the preparation of content and training, and excess of activities and works proposed to the students.
4. Difficulty in time management and difficulty in balancing family and academic life. L
5. Lack of technology skills by professors and students.
6. Lack of equipment by Professors and students.
7. Internet access speed and costs, as this system requires the use of the Internet as a crucial tool for communication, resulting in its use costs.
8. Bandwidth, which does not always efficiently support the transmission of content.

1.5. Advantages Involved in the Online Learning Process

It is also important to analyze the advantages of this type of learning, which facilitate the teaching and learning process [38]: Learn anytime and anywhere, since the materials are available twenty-four hours, and can be accessed from any location, allowing any trainee to join a given training, without the usual inconvenience; time-saving, as there is no need to travel to training, which causes so many inconveniences and becomes a barrier to training; the student learns at their own pace, and the student becomes autonomous, being responsible for their learning. He can choose the content and set their own pace, and the course contents can be reused in other courses partially or totally, with up-to-date information.

1.6. Hypotheses

This study aims to analyze the attitudes of Portuguese higher education students regarding compulsory digital and distance learning university courses during the second semester of the academic year 2019-2020 during the COVID-19 pandemic. The relationship between the pandemic impact and attitudes is explored regarding compulsory digital and distance learning and the intention to maintain the online format for the next year. Three main hypotheses were tested:

Hypothesis H1: *There a negative correlation between the pandemic impact on the academic journey and the attitudes of Portuguese higher education students regarding compulsory digital and distance learning university;*

Hypothesis H2: *There a positive correlation between the satisfaction with online classes format and the attitudes of Portuguese higher education students regarding compulsory digital and distance learning university;*

Hypothesis H3: *Is there a significant difference between the perception of the pandemic impact on the academic journey and the attitudes of Portuguese higher education students regarding compulsory digital and distance learning university regarding the group of students that want to maintain the online format for the next school year and the group of students that don't want to maintain the online format for the next school year?*

2. Methods

2.1. Data Collection Procedure

An online survey was developed through the Google Forms platform and sent to higher education student associations with the available online contacts. The survey was active between August and October of 2020. The instrument's application lasted 10 min on average.

The ones who answered were informed of the anonymous and confidential nature of the collected data, noting that their participation in the survey was voluntary and there was no monetary or another kind of reward.

2.2. Data Analysis Procedure

The data was analyzed by SPSS software (26.0 version). The variables under study were characterized using descriptive and frequency statistics. Variables relationship were explored by Spearman Rho Correlation, and the *t*-test was used to explore the differences between the students that want and do not want to maintain the online format in the next school. year.

2.2.1. Instrument

The survey was presented in two sections, the first one relating to the experience of distance learning during the period of the COVID-19 lockdown, focusing on distance learning's satisfaction as well as the obstacles and advantages, and the second one was composed of a sociodemographic and academic characterization group.

2.2.2. Participants

The global sample included 173 university students. In terms of sociodemographic characteristics, the participants were mostly female (n = 142; 82.1%), single (n = 157; 90.8%) with an average age of 24 years old (SD = 7.42). Majority of the ones inquired are from public universities (n = 151; 87.3%). The most common cycle of studies is the first cycle (n = 116; 67.1%), next is the second cycle (n = 52; 30.1%) and lastly is the third cycle (n = 5; 2.9%). From the participating scientific areas of the course, the ones that stood out were Law, Social Sciences and Services (n = 43; 24.9%); Health (n = 34; 19.7%) and Economics, Management and Accounting (n = 21; 12.1%). The school year the participants are in goes from the first one (n = 20; 11.6%); second one (n = 51; 29.5%); third one (n = 63; 25.9%); followed by the fourth until sixth one (n = 39; 22.5%). Only 26.6% (n = 46) are working students.

3. Results

3.1. Concern About the Pandemic and its Impacts on the Educational Path

Table 3 illustrates the students' perceptions of the concern and impact that the Covid-19 pandemic will have on their academic journey. The students inquired are very concerned (n = 76; 43.9%) and extremely concerned (n = 48; 27.7%) about the pandemic.

Table 3. Pandemic's impact on academic journeys.

Concern about the Pandemic	Frequency	%	Academic Journey	Frequency	%
Not concerned	2	1.2	No impact	6	3.5
A little concerned	3	1.7	A little impact	9	5.2
Concerned	44	25.4	Impact	29	16.8
Very concerned	76.8	43.9	A lot of impacts	66	38.2
Extremely concerned	48	27.7	A high impact	63	36.4
Total	173	100.0	Total	173	100.0

The majority of the 74.6% (n = 129) of the participants report that the COVID-19 pandemic will have a quite high impact on their academic journey.

3.2. Schedule, Place, and Specific Isolation Moments to Study

Regarding the study schedule, as can be seen in Table 4, 70.5% (n = 122) of the participants reported not having a specific Schedule. Regarding the specific place of study, there seems to be greater stability since most of the answers were "always" (n = 71; 41.0%). The specific moments of isolation to study seem to have been achieved quite often or always for 46.8% (n = 81) of the participants (Table 4).

Table 4. Schedule, place, and specific *isolation* moments to study.

Variables	Study Schedule		Place of Study		Moments of Isolation	
Answers	Frequency	%	Frequency	%	Frequency	%
Never	27	15.6	13	7.5	17	9.8
A few times	31	17.9	16	9.2	27	15.6
Sometimes	64	37.0	39	22.5	48	27.7
Quite often	24	13.9	34	19.7	50	28.9
Always	27	15.6	71	41.0	31	17.9
Total	173	100.0	173	100.0	173	100.0

3.3. Higher Education Institution (HEI) and Its Previous and Current Level of Preparation

Table 5 shows the perception of the higher education institution's level of preparation and adaptation concerning the COVID-19 pandemic. Regarding the institution's level of preparation, 120 (64.4%) of the inquired reported between nothing and partially prepared. Regarding the level of adaptation, at this moment, most of the answers (n = 90; 52%) are found between very and fully adapted.

Table 5. Level of preparation and adaptation of the institution concerning the COVID-19 pandemic.

Variables	Level of Preparation		Level of Adaptation	
Answers	Frequency	%	Frequency	%
Nothing prepared/adapted	32	18.5	12	6.9
Poorly prepared/adapted	43	24.9	26	15.0
Partly prepared/adapted	45	26.0	45	26.0
Very prepared/adapted	45	26.0	67	38.7
Fully prepared/adapted	8	4.6	23	13.3
Total	173	100.0	173	100.0

3.4. The Experience on Distance Learning

Regarding the course of their studies, the majority of participants were having online classes instead of face-to-face teaching (n = 170; 98.3%), considering that for 94.8%, it was their first experience of online classes.

Students are satisfied with the **online class format** (Table 6).

Table 6. Satisfaction with the online classes format.

Satisfaction with the Online Classes Format	Frequency	%	Mode
Not satisfied at all	24	13.9	
Not very satisfied	37	21.4	
Satisfied	60	34.7	3 = Satisfied
Very satisfied	35	20.2	
Totally satisfied	17	9.8	
Total	173	100.0	

When questioned if they dedicated their time to study in the online format more than they would in a face-to-face format, the answers are well-balanced with 53.2% (n = 92) saying no while 46.8% of participants (n = 81) saying yes (Table 7).

Table 7. Estimation of more study time involved in the online learning process compared with face-a-face learning process.

Answers	Frequency	%
Yes	81	46.8
No	92	53.2
Total	173	100.0

Regarding the equipment used, most participants use a laptop with more regularity (n = 167; 62.1%) (Table 8).

Table 8. Equipment used more frequently by the students.

Equipment	Frequency	%
Desktop computer	10	3.7
Laptop	167	62.1
Tablet	26	9.7
Smartphone	66	24.5
Total	269	100.0

In terms of the tools used by Professors, the most used was the International Communication Platform (e.g., Zoom, Google Hangouts . . .) (n = 168; 41.8%) and e-mail (n = 146; 36.3%) (Table 9).

Table 9. Online Learning Tools.

Online Learning Tools	Frequency	%
E-mail	146	36.3
Smartphone/Videochat	31	7.7
International Communication Platform (e.g., Zoom, Google Hangouts . . .)	168	41.8
E-Learning Platform or a similar tool	57	14.2
Total	402	100.0

The participants point out the use of the conference resource (video and audio) as a means of communication facilitating the learning process (Table 10).

Table 10. Communication facilitators.

Communication Facilitators	Frequency	%
Conference Calls	12	6.9
Chat – chatroom	6	3.5
Conferences (video and audio)	129	74.6
Electronic Mail	21	12.1
Discussion forums	5	2.9
Total	173	100.0

The replies show that a diversity of pedagogical techniques was used, as the clarification sessions' expression, availability of pedagogical materials in video and text format as well as group work (Table 11).

Table 11. Pedagogical techniques used.

Pedagogical Techniques	Frequency	%
Clarification sessions	136	18.0
Availability of pedagogical materials in video format	133	17.6
Availability of pedagogical materials in text format	116	15.3
Group work	114	15.1
Individual work	72	9.5
Small groups discussion	61	8.1
Availability of pedagogical materials in audio format	45	5.9
Large groups discussion	30	4.0
Pedagogical games	29	3.8
Simulations / role-play	19	2.5
Case studies	2	0.30
Total	757	100

When questioned about the balance of this online teaching experience, the viewpoints differ, positioning themselves between the scale's midpoint and a slight positive connotation. This result of ambiguous position is reinforced when questioned if they consider that face-to-face teaching's replacement by distance learning methodologies had a positive result with 51.4% (n = 89) saying yes and 48.6% (n = 84) saying no, as well as when questioned about this format's maintenance in the following school year, 56.1% (n = 97) saying yes and 43.9% (n = 76) saying no.

The issue of the maintenance of the format was complemented with the justification request which was the content analysis' subject. The reasons pointed out for not wanting to maintain the format are associated with the reconciling difficulty of this format with practical classes, technological constraint, especially the internet one, and the need for social proximity with colleagues and Professors. The reasons pointed out to support this format's continuity are associated with the security made possible while in a pandemic and time and location's flexibility (Tables 12 and 13).

Table 12. Balance of the online teaching experience.

Balance	Frequency	%
Very negative, was far below expectations	14	8.1
Negative	26	15.0
Reasonable	55	31.8
Positive	53	30.6
Very positive, has far exceeded expectations	25	14.5
Total	173	100.0

Table 13. Balance and maintenance of the online format.

Variables	A Positive Result of Replacing Face-To-Face Education with Distance Learning Methodologies		Maintenance of The Online Format in The Next School Year	
Answers	Frequency	%	Frequency	%
No	84	48.6	76	43.9
Yes	89	51.4	97	56.1
Total	173	100.0	173	100.0

The most pointed out were online tests (n = 145; 42.9%), followed by individual (n = 97; 28.7%) and group (n = 84; 24.9%) online works, with students being reasonably satisfied (n = 66; 38.2%) and very satisfied (n = 48; 27.7%) about the evaluation's format (Tables 14 and 15).

Table 14. Evaluation method.

Evaluation Method	Frequency	%
Face-to-face	8	2.4
Online through individual work	97	28.7
Online through group work	84	24.9
Online tests	145	42.9
Others	4	1.2
Total	338	100

Table 15. Evaluation's format satisfaction.

Satisfaction	Frequency	%
Not satisfied at all	13	7.5
Not very satisfied	29	16.8
Reasonably satisfied	66	38.2
Very satisfied	48	27.7
Extremely satisfied	17	9.8
Total	173	100.0

3.5. Opinions on Online Teaching

The participants positioned their agreement level with a set of statements on a five-point scale where 1 represents "I totally disagree" and 5 represents "I totally agree". The means' analysis allows us to verify that students report numbers above the scale's midpoint on their preference for the face-to-face format (mean = 3.82) and that this format requires significant changes for the students (mean = 3.62) (Table 16).

Table 16. Opinions on online teaching.

Opinions	Mean	Standard Deviation
I prefer the face-to-face classes format	3.82	1.385
Online teaching requires significant changes for the student	3.62	1.153
Online teaching allows me to save time	3.42	1.435
Online teaching is more functional in terms of schedules	3.4	1.363
I felt comfortable with online classes	3.38	1.263
The execution of asynchronous tasks is useful to assure the learning of the classes' contents	3.38	1.168
My Higher Education Institution has always sought the best for all students	3.23	1.258
Asynchronous tasks between synchronous classes make it easier to concentrate in class	3.02	1.215
I believe I learn the same in either online or face-to-face classes	2.44	1.304
I can learn better with online classes	2.39	1.433

3.6. Obstacles Involved in the Online Learning Process

Participants were asked to highlight the obstacles involved in the online learning process. The obstacles listed were highlighted 851 times by the participants and only 16 of them considered not to have obstacles. It is possible to highlight the excess of activities and works proposed (n = 112; 19.9%) and lack of concentration (n = 109; 12.6%) (Table 17).

3.7. Advantages Involved in the Online Learning Process

Participants were asked to indicate the advantages involved in the online learning process. The advantages listed were noted 417 times by the participants and only 19 participants considered that there were no advantages. The flexibility of location (n = 133; 30.5%) and time (n = 91; 20.9%) stands out (Table 18).

Table 17. Obstacles involved in the online learning process.

Obstacles	Frequency	%
Excess of activities and works proposed	112	12.9
Lack of concentration	109	12.6
Lack of students' interaction	87	10.0
Difficulty in time management	72	8.3
Lack of technology skills by Professors	70	8.1
Difficulty in balancing family and academic life	68	7.8
Lack of motivation and effort by students and families	67	7.7
Lack of support from Professors	56	6.5
Lack of support from the Higher Education Institution	50	5.8
Lack of motivation and effort by Professors	46	5.3
Lack of equipment by students	31	3.6
Lack of support from the Government and the Ministry	28	3.2
Lack of equipment by Professors	18	2.1
Additional costs with equipment	17	2.0
Lack of technology skills by students	16	1.8
Other obstacles	4	.50
No obstacles	16	1.8
Total	867	100.0%

Table 18. Advantages involved in the online learning process.

Advantages	Frequency	%
Time flexibility	91	20.9%
Location flexibility	133	30.5%
It was a contribution to more easily manage confinement	86	19.7%
Best academic results	54	12.4%
Ease of managing family and professional tasks with the course	49	11.2%
Other advantages	4	0.9%
No advantages	19	4.4%
Total	436	100.0%

3.8. Relationship Pandemic and Distance Learning Experience

The mode analysis reveals that students are reasonably satisfied (point 3 in answer scale) with the online format and the evaluation's format and consider HEI partly prepared (point 3 in answer scale) to deal with COVID-19. Students also reveal a lot of concern with the impact of the pandemic situation on the academic journey (point 4 in answer scale) and consider HEI to be well adapted (point 4 in answer scale).

Through Spearman's rho analysis (Table 19), it was found a statistically significant and inverse correlation between pandemic impact on the academic journey and all the other variables, thus the more students perceive the impact of the pandemic on academic life, the less they are satisfied with the online experience and evaluation; Balance of the online teaching experience is less positive, as well as the level of adaptation. On the other hand, there are positive and significant correlations between satisfaction with the online classes format and evaluation's format, level of preparation, and adaptation of HEI.

Table 19. Mode and Correlations.

Variables	Mode	1	2	3	4	5
1. Satisfaction with the online classes format	3					
2. Pandemic impact on the academic journey	4	−0.495 **				
3. Level of preparation of the HEI concerning the COVID-19	3	0.360 **	−0.139			
4. Level of adaptation of the HEI concerning the COVID-19	4	0.280 **	−0.183 **	0.412**		
5. Evaluation's format satisfaction	3	0.596 **	−0.349 **	0.179 **	0.193 **	
6. Balance of the online teaching experience	3	0.764 **	−0.487 **	0.279 **	0.303 **	0.665 **

Note. ** $p = 0.000$.

Due to the pandemic situation and the probable necessity of maintenance of the online format in the next school year, it has explored the differences between groups based if they want or do not want to maintain the online format in the next school year (Table 20).

Table 20. Differences between a student that want or do not want to maintain the online format on the next school year.

Variables	Maintenance of the Online Format in the Next School Year	N	Mean	Standard Deviation	T-Test
Pandemic impact on the academic journey	No	76	4.36	0.743	$t_{(166.399)} = -4.580, p = 0.000$
	Yes	97	3.70	1.129	
Level of preparation of the HEI concerning the COVID-19	No	76	2.61	1.234	$t_{(152.819)} = -1.268, p = 0.207$
	Yes	97	2.84	1.115	
Level of adaptation of the HEI concerning the COVID-19	No	76	3.22	1.103	$t_{(171)} = -1.485, p = 0.139$
	Yes	97	3.47	1.100	
Satisfaction with the online classes format	No	76	2.24	0.978	$t_{(171)} = -7.751, p = 0.000$
	Yes	97	3.43	1.030	
Evaluation's format satisfaction	No	76	2.62	0.993	$t_{(171)} = -6.604, p = 0.000$
	Yes	97	3.58	0.911	
Balance of the online teaching experience	No	76	2.59	1.073	$t_{(140.823)} = -8.187, p = 0.000$
	Yes	97	3.82	0.854	

Students who intend to maintain the online format rate the pandemic as having the least impact on the academic journey (mean = 3.70), are more satisfied with the online format (mean = 3.43) and with the evaluation's format (mean = 3.58) and make a more positive balance of the previous experience (mean = 3.82). No difference was found in the assessment of the preparation and adaptation of the institutions.

4. Conclusions

The pandemic has brought exceptional circumstances to teaching that require questioning the teaching methodologies used. To this end, a questionnaire with two sections was prepared, the first related to the distance learning experience during the hospitalization period by COVID-19 and the second composed of a set of sociodemographic and socio-academic characteristics.

This context was new and different—for 94.8% of the sample, it was the first experience with online classes. In general, students showed an ambivalent position concerning distance learning. Online is important to them given their concern about the pandemic and as a protector in this context. The results would be different in a non-pandemic context.

In terms of logistics and form issues, we can assume there is a lack of specific hours 70.5% (n = 122) of the participants reported not having a specific time and only (n = 71; 41.0%) always uses the same place of study/classes, which translates into a huge difference compared to the face-to-face education system.

Regarding the preparation of the institutions, the majority considers that they were not prepared at all (64.4%) for this change in functioning, but 52% recognize that they have adapted a lot or totally.

Among the various tools used, the Teaching Institutions used more the international communication Platform (e.g., Zoom, Google Hangouts ...) (41.8%) and the majority of participants used the laptop as equipment with more regular use (n = 167; 62.1%).

The analysis of the averages allows verifying that the students report values above the midpoint of the scale at the level of preference for the classroom format (average = 3.82) and that this format requires significant changes for the student (average = 3.62).

The barriers associated with the online regime listed were reported 851 times by the participants and only sixteen participants considered that there were no barriers. The excess of activities and

work proposed (n = 112; 19.9%) and the lack of concentration (n = 109; 12.6%) were highlighted by the students.

The two main advantages associated with the online regime were the location flexibility (n = 133; 30.5%) and time (n = 91; 20.9%).

About Pedagogical Issues we have some respondents highlight the use of conferences (video and audio) as a means of communication that facilitates the learning process (n = 126; 74.6%).

The responses demonstrate that a variety of teaching techniques were used. The expression of the Sessions to clarify issues, the provision of teaching materials in video and text format stands out, as well as group work.

The issue of maintaining the format was complemented by the justification request that was the subject of content analysis. The reasons given for not wanting to keep the format are associated with the difficulty of reconciling this format with practical classes, technological constraints, namely, the Internet, and the need for social proximity with colleagues and teachers.

In terms of assessment, online tests were the most referenced (n = 145; 42.9%), followed by individual online work (n = 97; 28.7%) and in group work (n = 84; 24.9%), with the students being reasonably satisfied (n = 66; 38.2%) and very satisfied (n = 48; students reasonably satisfied (n = 66; 38.2%) and very satisfied (n = 48; 27.7%) with the format of the assessments.

In short, from the analysis of the responses obtained, it seems to us that the greatest concern of the respondents is related to formal and contextual aspects concerning the regime of online classes. The analyzed values, taken as a whole, allow us to infer that there are acceptance and profit, in terms of knowledge, with this teaching regime. It is worth mentioning the context of uncertainty in which this transition took place, as well as the environment that surrounded this process.

The evaluation methodologies used were accepted and reveal a very wide range of choices on the part of the teaching teams and different preferences of the students, as in the classroom's teaching regime.

Results confirm the two first hypotheses to be essentially draws. Therefore, it there a negative correlation between the pandemic impact on the academic journey and the attitudes of Portuguese higher education students regarding compulsory digital and distance learning university. Therefore, the more the students perceive the pandemic as having an impact on their academic journey, the less they are satisfied with online class formats and evaluation formats, also the perception was less that HEI is prepared and adapted to the pandemic situation and was evaluated as the worst of the online teaching experience. As expected, if there was a positive correlation between the satisfaction with the online classes format and the attitudes of Portuguese higher education students regarding compulsory digital and distance learning university, this means that the more the students were satisfied with online classes, the more positive were their attitudes regarding pandemic impact, level of HEI preparation and adaptation, satisfaction with evaluation format and general balance of the experience. This result highlights the significance of education as a helpful mechanism to deal with emergency situations [39].

The third hypotheses were partially supported. No differences were found in the level of preparation and adaptation of HEI. However, results show that the students that want to maintain the online format in the next school year are those that are more satisfied with evaluation format and online class formats and that do a more positive general balance of the online teaching experience. This result points out that it is more valuable for students that pedagogical issues than the institutional aspects. Therefore, the intervention focus should be in this field, institutions should invest in teacher training and eLearning platforms.

The sample size should be reported as a limitation of the study; however, the focus was on having a heterogeneous sample and not prolonging data collection for too long in order to have some contributions to the new school year. Assuming that the larger the population size, the smaller the percentage of the population needed to get a representative sample [40] and considering the minimum value for the data analysis procedures it was aiming to perform [41]. During the pandemic, there was an intensification of research, which may have contributed to the failure to fill. Data collection took place

at the beginning of the school year, which may have affected questionnaire adherence. In the future, it will be interesting to replicate this study throughout the school year, thus being able to function as a tool for monitoring distance learning. Therefore, by analyzing the online teaching experience, we can infer that the students who found it useful assigned an average of 3.82, a very significant value that represents availability to repeat the experience.

In terms of future research, it is important to understand the consequences of this type of teaching on the success of students, both in terms of the repetition of Curricular Units and in terms of the obtained classifications.

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