Students' perceptions of distance education During the Covid-19 pandemic in Tunisia

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تصورات الطلاب عن التعليم عن بعد في تونس

خلال جائحة كوفيد 19

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Abstract:

This article investigates the perceptions of university students regarding the use of distant learning tools and techniques during the spread of COVID-19 based on their experiences during containment. Distant education is perceived as an alternative to ensure pedagogical continuity in the various educational institutions in Tunisia. Therefore, students' perceptions of this educational experience produced various attitudes according to: educational level, specialization, and students' residences. These variables are basic measures in this scientific study, due to the unequal distant education opportunities among students at the Tunisian Universities. The results of this study reflect the reality of distant education in one of the universities of the Republic of Tunisia. The main motive for this study is that I went through this experience with my students while providing remote lessons. I did face many difficulties in this pedagogical task including: weak/unstable Internet connection, lack of technical means for the students, a large percentage of students from rural areas complaining about the lack of Internet coverage along with the fact that they do not have computers.

Keywords: Distant education (DE), COVID-19, information technology for education, e-learning, student's perceptions.

ملخص:

يتضمّن هذا المقال العلميّ تصوّرات طلاّب الجامعات التونسيّة فيما يتعلّق باستخدام أدوات وتقنيات التعلّم عن بعد أثناء انتشار جائحة كورونا في الفترة المتراوحة بين شهري أبريل ومايو سنة 2021، من خلال استغلال تجربتِهم أثناء فترة الحجر الصحّي الشّامل. هذه التجربة، التي تعدّ إجراء بديلا لضمان الاستمرارية التربويّة في مختلف مؤسّسات القطاع التعليمي في تونس. وقد تباينت تصوّرات الطلبة في هذه التجربة التعليميّة حسب المستوى التعليمي، الاختصاص ومكان الإقامة السكنيّة لدى الطلبة. وكانت هذه المتغيّرات مقياسا أساسيّا في هذه الدراسة العلميّة، إذ بيّنت عدم تكافؤ فرص التعليم عن بعد بين الطلبة في الجامعة التونسيّة. وتظلّ نتائج هذه الدراسة مجرد صورة لتشخيص واقع التعليم عن بعد بإحدى جامعات الجمهوريّة التونسيّة. وكان الدّافع الرّئيسي لهذه الدراسة، هو أنّني قمت بهذه التجربة مع طلبتي أثناء تأمين الدروس عن بعد، وواجهتني صعوبات عدّة في هذه المهمّة البيداغوجيّة منها: الضّعف في شبكة الأنترنيت، وعدم توفّر الوسائل تقنيّة للطلبة، ذلك أنّ نسبة كبيرة من الطلبة ينحدرون من أماكن ريفية، ويشكون من ضعف التغطية في شبكة الأنترنيت، فضلا عن عدم امتلاكهم لحواسيب.

كلمات مفاتيح: التعليم عن بعد- كوفيد 19- تقنيات التعليم- التعلم الالكتروني- تصورات الطلاب.

1−Introduction and General Problem:

Due to the COVID-19 pandemic, Tunisian universities are faced with the establishment of a massive e-learning experience for their students. The aim of this study is to analyze the effects of the pandemic on the morale and behavior of students, even if the perception they may have of the e-learning they are undergoing may vary from one student to another and from one discipline to another. We are focusing on a population of students for whom e-learning has been imposed due to health circumstances.

With the spread of the health crisis, which has caused a great confusion with strong impacts on the social and economic sectors, the educational systems around the world have adapted quickly. Governments have responded swiftly to ensure the continuity of the educational programs and keep students and education stakeholders safe by closing schools and other learning spaces.

TheCovid-19 pandemic has revealed many disparities in the educational systems of many countries, which increased problems and a sense of anxiety amongst students.

Ensuring the continuity of learning has become a top priority for governments around the world during the closure of schools by using information and communication technologies.

The target population of this research includes all the students of the University of Sfax (320 students). A quiz was administered to the students of different disciplines to compare the perceptions of the e-learning among different students.

Education is among the activities that have been mostly affected. To ensure educational continuity, Tunisian universities, just like in other countries around the world, have worked hard to set up a large-scale remote educational system. Students, teacher, researchers, and university officials have all made commendable efforts. The main purpose of this study with Tunisian students is to identify their perceptions on several aspects of such experience as both actors and beneficiaries of the remote learning.

2-Theoretical and conceptual framework:

E-learning has become one of the academic sectors that has witnessed a rapid evolutionary change. Throughout history, technology has played a crucial role in education and training. Indeed, printing, writing, audiovisual techniques and micro-computing have profoundly changed the traditional methods of education and training. The first e-learning courses were developed in the United States in the middle of the 19th century.

With the development of information and communication technology for education, printing is considered as the first technique used from the beginning of distance education and forms the basis of correspondence study. It is the main teaching tool for which the paper was the dominant mode of communication. In 1840, the postage stamp appeared and the first correspondence course launched in England was discovered. It is important to note that e-learning in its earliest form was tied to the technology of the postage stamp. The sixties were characterized by the invention and discovery of many media that contributed to the consolidation of distant learning as (printed press, radio, television, and video) complementary, and coordinated with a view to a common educational objective. At that time, televisions and video cassettes were considered amongst the modern technical means that were used to provide distant learning.

With the different audiovisual techniques used at that moment, printing remained the basic medium in the educational system. The interaction was limited between the student and the teacher specially to correct the activities by telephone correspondence.

The modern era began in the 1980s with the birth of micro-computing and then the Internet. That era was marked by a new mutation for distant learning and that of rapid and progressive interaction. This interaction is characterized by online discussion via email, and by videoconference between students and teachers.

In the digital era and in a context influenced by "constructivist" conceptions of education, the emergence of new interactive digital technologies in all sectors and especially for distant learning through "The digital Learning", which is means facilitating the face-to-face interaction towards distant learning while harmonizing learners and technologies by offering a range of tools, formats and approaches.

Distance learning can take the form of face-to-face courses, which is part of a hybrid learning process (online training and face-to-face training) to ensure the continuity of pedagogical training.

3– Distance education: definition and historical overview:

The UNESCO defines distant learning (or Distance Education, also ODL for Open and Distance Learning) as: "a field of education that focuses on the pedagogy, technology, and instructional systems design that aim to deliver education to students who are not physically on site"

The UNESCO notes that the wealth of digital educational resources has created new demands for higher educational systems and institutions that include the development of innovative curricula, alternative learning pathways and higher education methods, all of which can be facilitated through online and distant learning as well as short skills-based courses.

Distance education or distance training, therefore, is considered to be a device made up of a set of materials, technical, human, and pedagogical resources put in place to provide education to individuals who are distant.

Lameul (2000) investigates the contribution of communication tools in a distance training process. She considers that the use of different means of communication makes it possible to "break with the three units of time, place and action, by allowing learners to train without having to move to a place specifically identified for training, by entering contact with the trainer-accompanist or the teacher through the means of communication".

From a pedagogical point of view, distance Learning also called ODL for **O**pen and **D**istance **L**earning, does not systematically result in the dissemination of a theoretical course. The student sometimes receives all the written documentation before the course and it is up to him/her to study it. The teacher's website is then a support for the course, with exercises, supplements, illustrations, answers, and finally an interactive site for questions and answers (Charbonneau et al., 2000). Teaching has improved pedagogically thanks to multimedia.

What is distance Learning?

Distance learning (or e-learning) is a way to train and validate a diploma remotely, that is to say without having to go to a school to attend classes. The student receives the lessons at home and can, thus, study at any time. Often the courses are accompanied by exercises to be

carried out and sent back to be corrected by teachers. More and more institutions have moved from paper to mouse in recent years and, now, use digital tools (email, chat, video, etc.) to facilitate the learning process and interaction between the students and the teachers.

3-1- Distance Learning has evolved throughout history:

The beginning was in 1729 by Philips Caleb, when he gave weekly lectures in the Boston Gazette (Class Correspondence). The Radio was used for this purpose in 1922, when the prestigious University of Pennsylvania began offering a number of courses via radio and then television, while Stanford University launched an initiative in 1968 called Stanford the Instructional Television Network to provide courses to engineering students on a television channel. In 1982, the computer entered the field of education. Ten years later, in 1992, the widest diffusion was with the advent of the Internet, when the learning management systems (LMS) emerged as a canvas, Blackboard in 1999.

3-2- Features of Distance Learning:

Physical distance: The only element common to all the scientific definitions of DE listed here remains the explicit mentioning of the physical or geographical distance between the teacher and the learner who do not share the same space, at least for part of the duration of the training.

4−Research methodology:

This survey focuses on students' perceptions of the use of distance learning tools during the covid-19 pandemic. It seeks to collect data on university students' experience of distance education. This research is structured as follows. Firstly, we present the context, the problem and the conceptual framework of distance education. Secondly, we are interested in the methodology followed for this survey. Finally, we expose the obtained results. With the aim of providing general insight into distance university education in Tunisia during the period of confinement (April-May 2021), this study aims in particular to:

• Identify the degree of adaptation of Tunisian students to distance education set up by universities.

• Measure the level of satisfaction of students with respect to the achievement of their respective objectives in this distance education.

• Determine any difficulties and constraints encountered by students during this period of "educational continuity".

Our sample is made up of 320 university students from different courses: students from the Faculty of Letters and Human Sciences of different specialties (Sociology, French, English, History and Arabic) and students from the Higher Institute of Physical Education. The survey was carried out in June 2021. The analysis of the data was affected by the use of the SPSS software (Statistical Package for the Social Sciences) -- a statistical data processing software.

5–Survey result:

5-1- Distribution of the sample by gender:

Gender of students

■ Male ■ Female

34%

66%
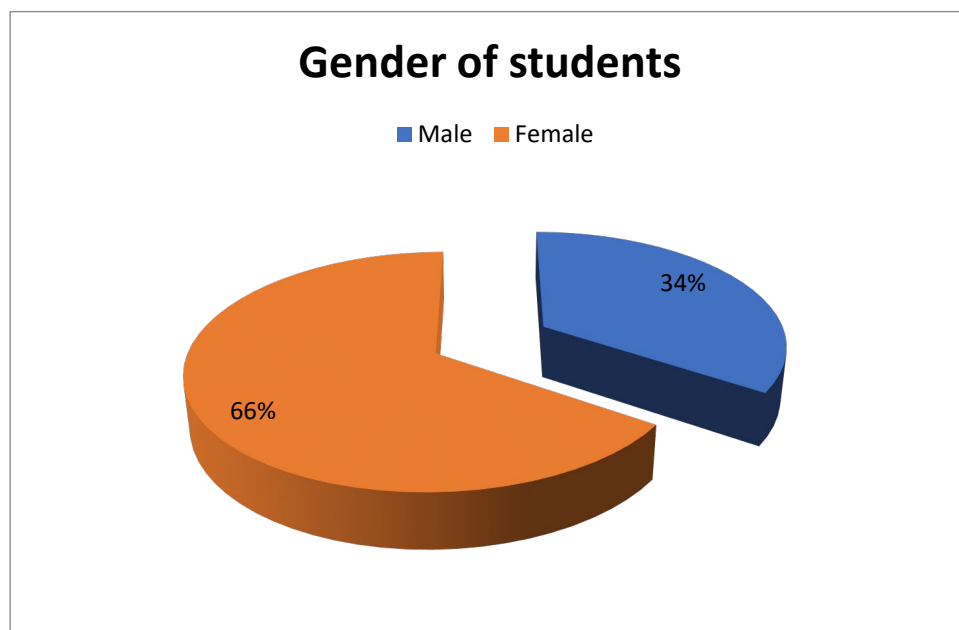
Source: Fieldwork 2021.

Our study presents the following statistics: 34.4% of the participants in the sample are males and 65.6% are females. This implies that the number of female students is higher than those of students in our universities in Tunisia.

5-2- Distribution of the sample by age:

Age of students

■ 19-22 ■ 23-26

33%

67%
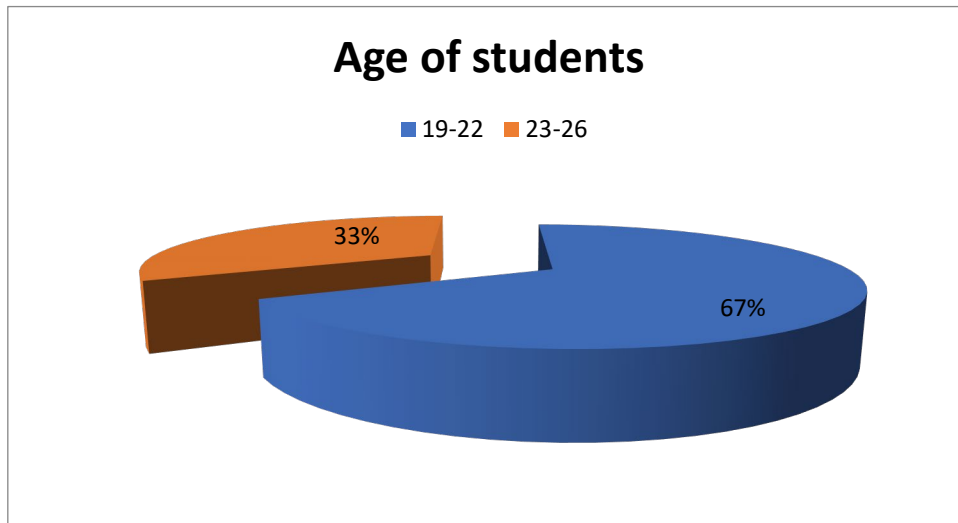
Source: Fieldwork 2021.

Our sample is distributed according to age as follows: 67.5% are between 19 and 22 years old and 32.5% are between 23 and 26 years old. The age variable is very important to know the perceptions of university students of distance learning.

Place of residence

■ Communal ■ No communal

49%

51%
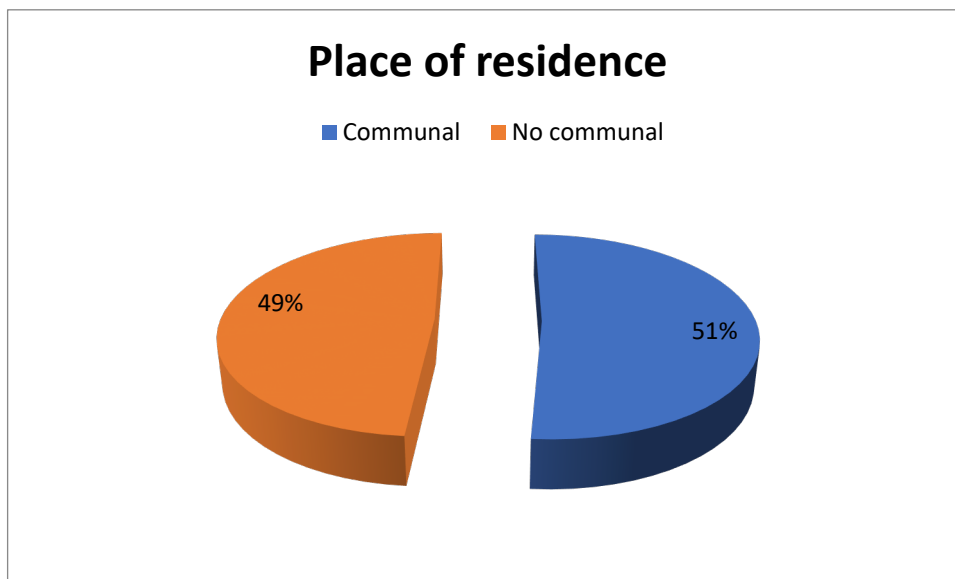
Source: Fieldwork 2021.

In Tunisia, the place of residence of students is very important to measure the degree of motivation for distance education. 51.3% of the students surveyed live in a municipal environment which is characterized by a good road infrastructure, electricity, internet. 48.7% of the participants live in a non-municipal environment, i.e. a rural area that lacks many things, including Internet network coverage.

5-3- Distribution of the sample by establishment:

Table 1: Establishment of education

Educational institution	Workforce	Percentage
Faculty of Letters and Humanities (**FLH**)	250	78.1
Higher Institute of Physical Education (**HIPE**)	70	21.9
Total	320	100.0

Source: Fieldwork 2021.
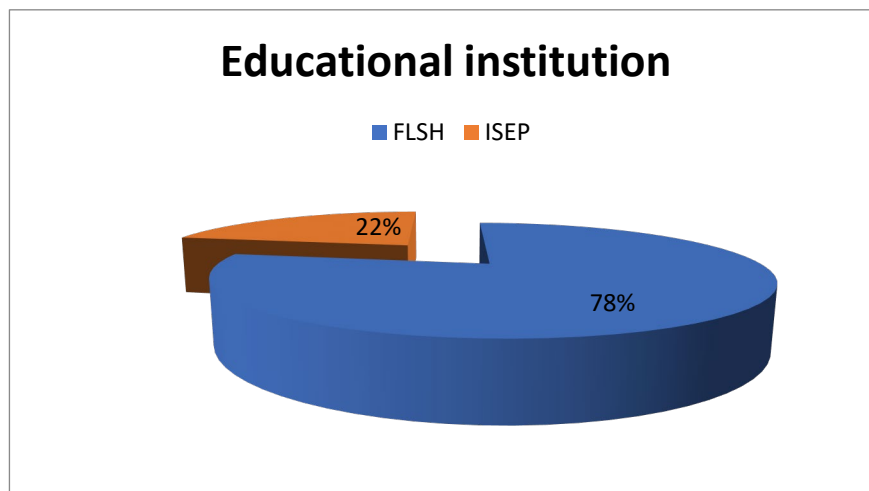
Source: Fieldwork 2021.

In our study, we tried to measure students' perceptions of the use of distance learning tools from two different universities.

The largest number of 250 students belong to the Faculty of Letters and Human Sciences, and 70 students from the Higher Institute of Physical Education. The university establishment plays a very effective role in the training of students.
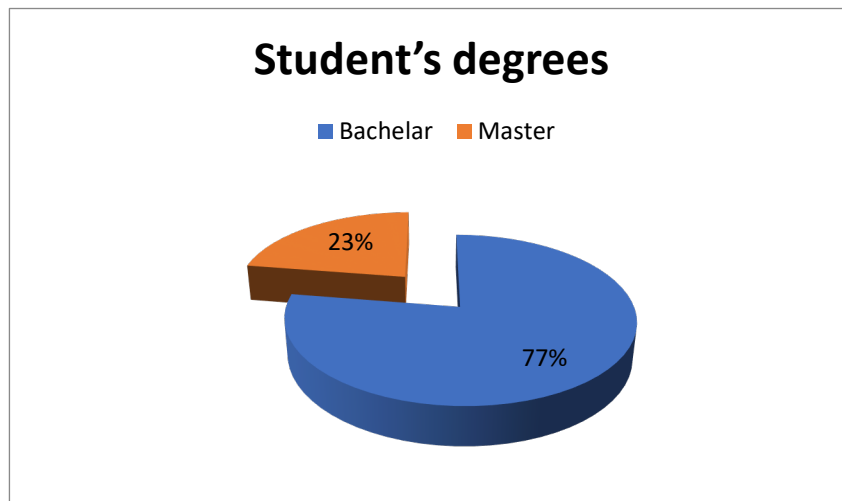
Source: Fieldwork 2021.

The distribution of students according to qualifications is as follows: 248 students (77.5%) have a Bachelor Degree and 22.5% are continuing their studies for a Master's Degree.

Table 2: Distribution per Discipline

Discipline	Workforce	Percentage
Sociology	94	29.4
French	63	19.7
History	61	19.1
English	32	10.0
Physical Education	70	21.9
Total	320	100.0

Source: Fieldwork 2021.

To find out the perceptions of students towards distance education, we have chosen different specialties. Our investigation gives the following results:

✓ Students majoring in sociology: 29.4%.

✓ French specialty students: 19.7%.

✓ Students majoring in history: 19.1%

✓ English specialty students: 10.0%.

✓ Students majoring in physical education: 21.9%.

Our initial objective here is to identify the experiences in distance learning according to the specialties of the students. The specialty of universities in Tunisia plays a very important role in providing better training, first of all, in technology and computer science. Also, the means and the new teaching techniques in Tunisia differ from one institution to another. Here, it is very important to review the teaching programs for certain specialties and especially in terms of new technologies.

Table 3: Have you had previous experiences in distance education?

	Workforce	Percentage
Yes	111	34.7
No	209	65.3
Total	320	100.0

Source: Fieldwork 2021.

We asked the following question for our students: Have you had any previous experiences with distance education?

The answers collected are as follows: 34.7% of students have already had previous experience in distance learning. But the most remarkable feedback, that of 65.3% of the sample studied, did not have any experience for distance learning.

5-4- The experience of distance learning by specialty:

Table 4: Have you had previous experience in distance learning /Specialty

Have you had previous experience in distance learning		Specialty					Total
		Sociology	French	History	English	Physical Education	
Yes	workforce	29	31	25	26	0	111
	% du total	9,1%	9,7%	7,8%	8,1%	0%	34,7%
No	workforce	65	32	36	6	70	209
	% du total	20,3%	10,0%	11,3%	1,9%	21,9%	65,3%
Total	workforce	94	63	61	32	70	320
	% du total	29,4%	19,7%	19,1%	10,0%	21,9%	100,0%

Source: Fieldwork 2021.

According to table 4, we have found that 65.3% of the students have not had any experience in distance learning before, including 21.9% in the "physical education" specialty and 20.3% in the sociology specialty. On the other hand, we have found 34.7% of the students have had the experience of distance learning outside of the current pandemic situation.

The experience of distance education differs from one specialty to another depending on the programs of the teaching path.

Table 5: Have you already followed a training course on Distance Learning?

	Workforce	Percentage
No	320	100.0
Total	320	100.0

Source: Fieldwork 2021.

The most remarkable result here is that all the students surveyed (100%) declare that they have not followed a training course on distance education in Tunisia. In this case, we found

that there is no such tradition especially for academic distance education for Tunisian public universities. This implies that the Tunisian university is not ready to give distance learning courses for all students in the same way. The covid-19 pandemic has allowed us to identify the fragile situation of the university which cannot provide distance education properly.

Table 6: How do you judge the participation rate of students in online courses?

Degree of importance	Workforce	Percentage
Important	81	25.3
Medium	155	48.4
Weak	84	26.3
Total	320	100.0

Source: Fieldwork 2021.

For a long time, we have been talking about the presence of students in class sessions. This is visible and by the statistical data we note the phenomenon of absenteeism at the students is quite striking.
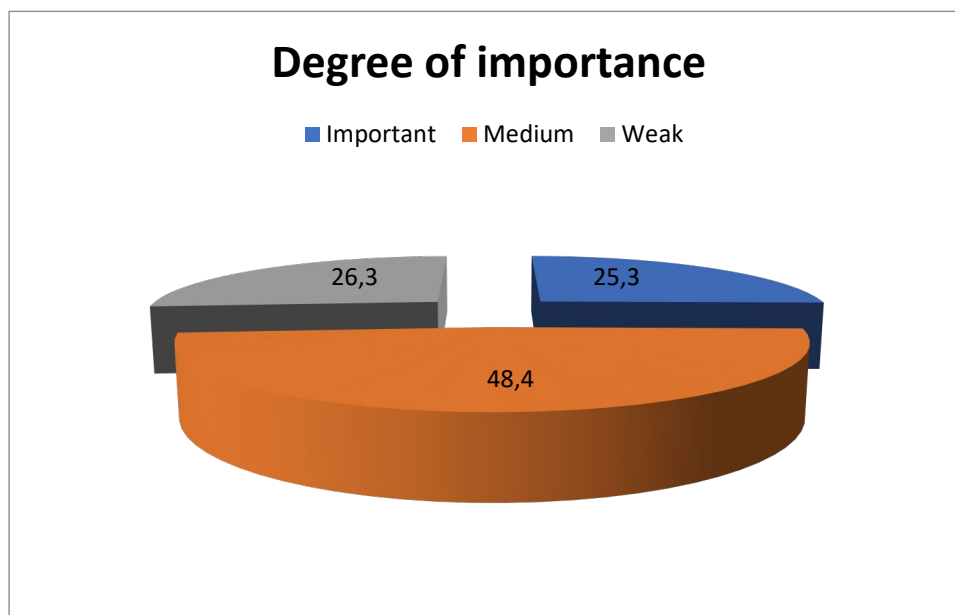
According to table 7 which shows us the student participation rate in online courses during confinement, we treat the presence of students for this type of distance learning as follows: 48.4% declare "average" and 26.3% low and 25.3% is significant.

Student participation in online courses according to specialty:

Table 7: How do you judge the participation rate of students in online courses according to specialty

		Speciality					Total
		Sociology	French	History	English	Physical Education	
Important	Workforce	26	20	18	10	7	81
	% du total	8,1%	6,3%	5,6%	3,1%	2,2%	25,3%
Medium	Workforce	48	33	32	18	24	155
	% du total	15,0%	10,3%	10,0%	5,6%	7,5%	48,4%
Feak	Workforce	20	10	11	4	39	84
	% du total	6,3%	3,1%	3,4%	1,3%	12,2%	26,3%
Total	Workforce	94	63	61	32	70	320
	% du total	29,4%	19,7%	19,1%	10,0%	21,9%	100,0%

Source: Fieldwork 2021.

The statistics obtained from the student participation rate in online courses according to the specialty are as follows: 25.3% of the total number of students are distributed according to the specialty as follows; 8.1% in sociology, 6.3% in French, 5.6% in history, 3.1% in English and 2.2% in physical education agree that the participation rate is important. The rate of participation or attendance of students online is a new experience for universities in Tunisia.

The 48.4% of the students surveyed declared that the attendance rate is average, on the other hand we find 26.3% of the total answer "weak".

Table 8: Is the time devoted to the preparation of the distance learning course more important than face-to-face?

	Workforce	Percentage
Yes	178	55.6
Almost the same	68	21.3
No	74	23.1
Total	320	100.0

Source: Fieldwork 2021.

The question asked here allowed us to compare the time devoted to the preparation of the distance course compared to the face-to-face according to the vision of the students: 55.6%

believe that the time devoted to the preparation of the distance course is more important than that of face-to-face. However, we have found that 23.1% answered no.

The following table presents the time devoted to the preparation of the distance and face-to-face course according to the specialty of the students.

Table 9: Is the time devoted to the preparation of the distance learning course more important than face-to-face Specialty?

		Speciality					Total
		Sociology	French	History	English	physical Education	
Yes	Workforce	40	30	28	16	64	178
	% du total	12,5%	9,4%	8,8%	5,0%	20,0%	55,6%
Almost the same	Workforce	41	7	11	3	6	68
	% du total	12,8%	2,2%	3,4%	0,9%	1,9%	21,3%
No	Workforce	13	26	22	13	0	74
	% du total	4,1%	8,1%	6,9%	4,1%	0%	23,1%
Total	Workforce	94	63	61	32	70	320
	% du total	29,4%	19,7%	19,1%	10,0%	21,9%	100,0%

Source: Fieldwork 2021.

This table shows the importance of the time devoted to the preparation of the distance course than face-to-face according to the specialty of the students. Students in the physical education specialty answer this question well compared to other specialties such as sociology with 12.5%, French 9.4%, history 8.8% and English with 5.0%.

Table 10: The time devoted by the student to distance learning is sufficient.

|	Workforce	Percentage
Yes	111	34.7
No	209	65.3
Total	320	100.0

Source: Fieldwork 2021.

The majority of students considered that the time devoted to learning at a distance is insufficient with 65.3%, on the other hand 34.7% of the students studied say that it is sufficient.

Here, we find that the time variable for distance learning differs from one student to another depending on the specialty, gender, region, etc.

Table 11: Which tools did you use?

Tools	Workforce	Percentage
Google Meet	176	55.0
Zoom	69	21.6
Messenger	26	8.1
Microsoft Teams	29	9.1
Emails	20	6.3
Total	320	100.0

Source: Fieldwork 2021.

E-learning of tools

Tool	Value
Emails	6,3
Microsoft Teams	9,1
Messenger	8,1
Zoom	21,6
Google Meet	55
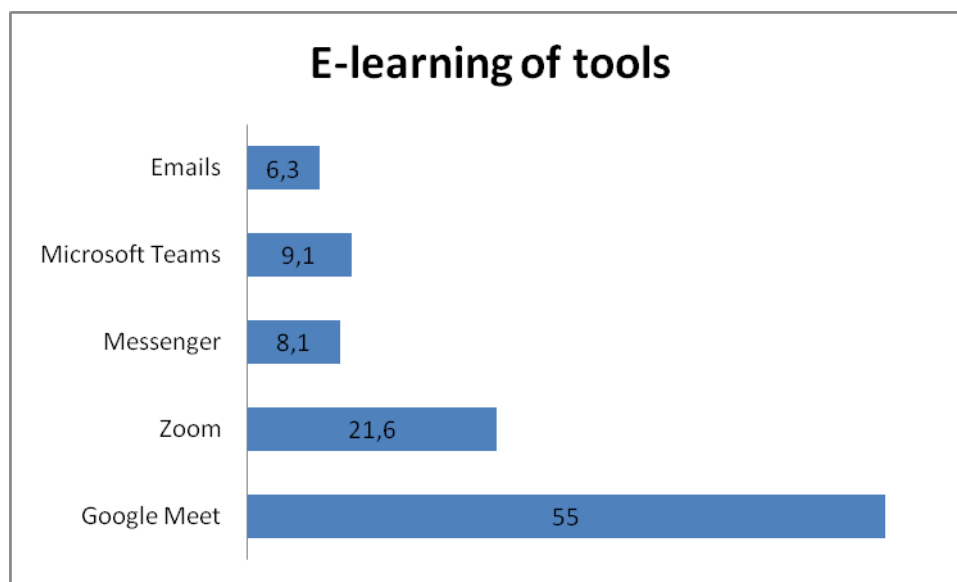
There were clear visions and strategic plans that accompanied the explosion of knowledge and technical progress on the one hand, and population growth on the other, and the need for each individual to learn, to move towards learningremotely. Governments have been forced to treat it as a *fait accompli* in light of the suspension of studies in many countries around the world during the covid-19 pandemic.

With the progress of technology, different means and tools are used to provide efficient distance education. The students were asked: What tools did you use? They gave the following responses in descending order of interest: Google Meet 55.0%, Zoom 21.6%, Microsoft Teams 9.1%, Messenger 8.1%, and Email 6.3%.

Table 12: Which tools did you use/ Specialty?

		Speciality					Total
		Sociology	French	History	English	Physical Education	
Google Meet	Workforce	41	38	33	19	45	176
	% du total	12,8%	11,9%	10,3%	5,9%	14,1%	55,0%
Zoom	Workforce	10	15	17	8	19	69
	% du total	3,1%	4,7%	5,3%	2,5%	5,9%	21,6%
Messenger	Workforce	10	4	4	2	6	26
	% du total	3,1%	1,3%	1,3%	0,6%	1,9%	8,1%
Microsoft Teams	Workforce	18	4	5	2	0	29
	% du total	5,6%	1,3%	1,6%	0,6%	0%	9,1%
Emails	Workforce	15	2	2	1	0	20
	% du total	4,7%	0,6%	0,6%	0,3%	0%	6,3%
Total	Workforce	94	63	61	32	70	320
	% du total	29,4%	19,7%	19,1%	10,0%	21,9%	100,0%

Source: Fieldwork 2021.

The table above presents the different tools used for distance education according to the specialties. It is clear that Google Meet application is the most used tool with students with 55.0% distributed as follows: Physical education 14.1%, sociology 12.8%, French 11.9%, history 10.3% and 5.9% English. In this respect, information and communication technology teachers is important. But more importantly, the assessment and pedagogical skills needed to deal with students according to their level and the implementation of accelerated curricula and differentiated learning strategies that are most likely to be adopted when returning to school.

5-5- The difficulties of distance learning:

Table 13: What are the main difficulties you encountered?

	Workforce	Percentage
Connexion Problems	105	32.8
Lack of student motivation	72	22.5
Difficulties to use tools	49	15.3
Lack of technical support	94	29.4
Total	320	100.0

Source: Fieldwork 2021.

This table shows us the main difficulties encountered by students in distance education during the period of confinement of the covid-19 pandemic at the Tunisian university.

Among these difficulties we cite the problem of internet connection in the first place with 32.8%, the lack of technical assistance 29.4%, the lack of motivation among the students 22.5% and the mastery of the tools used with 15.3% for distance learning.

During our research, we learned together about the most important obstacles encountered by students and the teaching environment during the disruption of teaching, knowing that many students had no knowledge of the techniques and mechanisms of distance education and had no previous experience in this field.

Table 14: What are the main difficulties you encountered according to specialty

		Speciality					Total
		Sociology	French	History	English	Physical Education	
Connection Problems	Workforce	26	24	22	12	21	105
	% du total	8,1%	7,5%	6,9%	3,8%	6,6%	32,8%
Lack of student motivation	Workforce	9	17	16	5	25	72
	% du total	2,8%	5,3%	5,0%	1,6%	7,8%	22,5%
Difficulties to use tools	Workforce	8	11	14	5	11	49
	% du total	2,5%	3,4%	4,4%	1,6%	3,4%	15,3%
Lack of technical support	Workforce	51	11	9	10	13	94
	% du total	15,9%	3,4%	2,8%	3,1%	4,1%	29,4%
Total	Workforce	94	63	61	32	70	320
	% du total	29,4%	19,7%	19,1%	10,0%	21,9%	100,0%

Source: Fieldwork 2021.

Several challenges for teaching in Tunisia on the pedagogical level, the content and the strategies of the university towards students of all specialties.

It is not possible to switch to distance learning and education, without taking into account the problems of certain educational systems, and without the integrated plans in this area. Distance learning and education need "equal opportunity", precisely in terms of structures. The same is true for the infrastructure that comes with it, such as electricity, internet and educational materials.

5-6- Student satisfaction with their distance learning experience:

Table 15: Are you satisfied with your distance learning experience?

	Workforce	Percentage
Yes	155	48.4
No	165	51.6
Total	320	100.0

Source: Fieldwork 2021.

Table 15 summarizes the degree of satisfaction of students with their distance learning experience. We find that 51.6% of the students met are not satisfied with this experience and 48.4% are satisfied. Here we can say that the degree of satisfaction is linked to other factors such as:connection problems, experience with tools, lack of technical assistance, and lack of student motivation and also the lack of training on distance education.

What we can conclude from our meeting with students from various disciplines is that the degree of satisfaction with distance education varies from one student to another according to his/her specialty, his/her regional affiliation and his/her social class.

5-7- Student motivation for distance learning in the future:

Table 16: Are you motivated to use distance learning in the future?

	Workforce	Percentage
Yes	202	63.1
No	25	7.8
Possibly	93	29.1
Total	320	100.0

Source: Fieldwork 2021.

We asked the following question: Are you motivated to use distance learning in the future? The answers obtained are as follows: 63.1% are motivated to use distance learning in the future.

This experience of distance learing in Tunisia, which occurred in certain circumstances, gave new variables for reflection and action in the future. We have also learned about the importance of distance learning for some students and how excited they are in the future to follow distance learning.

5-8-   Compare face-to-face teaching to distance learning:

Table 17: According to you, the student learns better with

	Workforce	Percentage
Face to Face teaching	175	54.7
Teaching remotely	86	26.9
Both	59	18.4
Total	320	100.0

Source: Fieldwork 2021.

This last table shows the effectiveness of face-to-face or distance learning, or both at the same time, according to the students' vision.

We asked students "how do you learn best?" (i.e. With face-to-face teaching, with distance learning, or both). More than 50% of students confirmed that face-to-face teaching is more effective. We are therefore faced with a major paradox between the need to adhere to the imposed and exhaustive confinement during the outbreak of the epidemic and the practice of education linked to a calendar. The most appropriate solution is the application of distance education.

In this case, distance education becomes a challenge to all the obstacles that prevent a large part of the population from continuing their studies. The disadvantages of distance education on the other hand, are the inequality of opportunities between the classes of society, in particular, the fragile classes that suffer from deficiencies in terms of infrastructure and material.

All of this is reflected on the student's learning journey.

Table 18: According to you, the student learns better with / Specialty

		Speciality					
		Sociology	French	History	English	Physical Education	Total
Face to Face teaching	Workforce	46	39	38	19	33	175
	% du total	14,4%	12,2%	11,9%	5,9%	10,3%	54,7%
Teaching remotely	Workforce	41	15	15	6	9	86
	% du total	12,8%	4,7%	4,7%	1,9%	2,8%	26,9%
Both	Workforce	7	9	8	7	28	59
	% du total	2,2%	2,8%	2,5%	2,2%	8,8%	18,4%
Total	Workforce	94	63	61	32	70	320
	% du total	29,4%	19,7%	19,1%	10,0%	21,9%	100,0%

Source: Fieldwork 2021.

We process the dataof this last table that summarizes the vision of the students between face-to-face and distance education according to their specialty. The most remarkable thing here is that sociology students learn better with face-to-face teaching than remote teaching with 14.4% of the total number of students encountered. Similarly, we find the French specialty and history prefer and learn better with face-to-face teaching with 12.2% and 11.9% of this sample studied.

What we can conclude from this table, which includes a comparison between face-to-face and distance learning according to the specialization of the students, is that many of the students choose face-to-face learning because of the nature of the subjects taught on distance education and because of the efforts and mechanisms that go back to the experience and daily practice of new technologies during the teaching session.

In conclusion, the training of students and especially teachers in distance education and its techniques are very important to facilitate the learning process and realize a better training between students and regions equally.

5-9- Type of connection used:

Table 19: What type of internet connection do you have at home?

Type of connection	Workforce	Percentage
ADSL	32	10.0
4G/3G / Flybox	36	11.3
ViaSmartphone	152	47.5
Public Wifi hotspot	53	16.6
No Internet connection	47	14.7
Total	320	100.0

Source: Fieldwork 2021.

Distance learningrequires specific materialssuchas the access to the internet to succeed in the operation of training between teachers on one side and learners on the other side.

To find out the type of connection used by students as the target population in our study, we asked students: What type of internet connection do you have at home? The answers obtained are as follows: 47.5% of the sample studied have access to the Internet from Smartphone, in second place the public Wi-Fi hotspots with 16.6%, but the most interesting that 14.7% do not have Internet access at home. This last rate is important to know the situation of students who can never follow their courses remotely. This last table reflects the social and economic level of students, nearly 30% do not have internet at home.

This lack of internet coverage is due to the responsibility of the state, which has not provided comprehensive coverage to facilitate communication.the latter creates differences between regions, which in turn cements social differences.

In this case, we are talking about social inequalities in front of university education.

Table 20: What type of computer equipment do you have at home to follow online courses?

Connection tool	Workforce	Percentage
Laptop	63	19.7
Personal Computer	26	8.1
Tablet	29	9.1
Smartphone	170	53.1
Nothing	32	10.0
Total	320	100.0

Source: Fieldwork 2021.

We asked the question "What type of computer equipment do you have at home to follow courses online? This question provided us with the following answers: the Smartphone tool used by students ranked first with a rate of 53.1% of the sample studied, the laptop/PC takes the second place with 19.7%. The most remarkable thing here is that 10% of the students declared that they did not have computer equipment at home to follow their online or distance courses, which reflects the lack of means and indicates their social classes.

6–Discussion and conclusion:

Several factors should come together to increase the chances of a successful distant learning. First of all, it is necessary to establish laws and regulations that support and manage distance education programs and methods.

Secondly there should be a scientific framework for teacher training in methodological, pedagogical and evaluative methods in distance education.

What we can learn from this scientific study on Tunisian students' perceptions of distance education is that we are facing a major paradox of what we are experiencing in this health crisis globallyandin Tunisia, particularly. This has confused all sectors, including education and the situation in which the Tunisian University is experiencing fragility in technological training in many disciplines. In addition, the university and the educational framework are not well-prepared to follow the pace of technical and logistical developments to guarantee and ensure distance education for all students equally, while providing the necessary coordination and control mechanisms between the administration, the teachers, and the students for the success of training.

During our meetings with many students from different scientific disciplines, they assured us that they urgently needed training in the field of modern technology that facilitates educational communication due to the dangerous epidemiological situation that limits the attendance at the university. It goes without saying that many students today cannot join the classrooms due to the difficulty of moving around and also for fear of infection.

As for the method of distance learning, according to what many students have stated, there is an inequality in the reception of lessons due to the limited possibilities and unequal opportunitiesin the techniques adopted in teaching. Second, students in rural areas complain of little or no internet coverage that is a key factor in course offerings. Third, there is a

respectable percentage of students who lack the means of educational communication. Fourth, and this is the crucial point, the absence of distance teaching traditions at the university is a confounding factor in the practice of courses.

When we asked students about their satisfaction with distance education, we found over 50% of students who were dissatisfied with the process for several reasons, including not being able to embark on the experience before, the inequality of opportunity and the lack of technical abilities. On the other hand, we noticed a significant percentage that wanted face-to-face teaching for better chances of understanding and equal opportunity. Also, as some of them have stated, many teachers are not able to communicate with them in a meaningful way to understand and explain the course.

By discussing with the students according to their motivation in the future, we therefore found them very motivated for distance education in the future with 63.1% of the whole surveyed population.

This study reflects the situation of the Tunisian University, which suffers from several pedagogical deficiencies in the integrated programs towards several specializations, in particular in the humanities and social sciences, knowing the inability to provide the basic requirements for distance education in situation of full lockdown.

The most important solutions that need to be made to make the process of distance learning more efficient and of high quality, and to ensure that distance education reaches all the learners who need it is laying the legal foundations in curricula, assessment and content training.

In the past, evaluations of distance learning programs have typically led to "afterthoughts" and relied on often unreliable and unrepresentative opinion polls of the participants involved. Even when assessments have focused on student achievement. More robust plans for evaluating distance education programs must be adopted in the future, if we want to identify their strengths and eliminate their weaknesses. These plans should be based primarily on the experience of those who have had to evaluate technologies in the past (Levin, 1988). Three broad guidelines should be followed: First, evaluation should begin early in the planning of the distance learning program. Second, launching an evaluation from the beginning of the project can provide much more useful information on its strengths and weaknesses. Third, recommending that all programs should adopt a multi-level assessment system.

Evaluating distance education at the different roles of qualitative and quantitative data (e.g., questionnaires, student grades, monetary costs, and participant feedback) should also be defined.

Ultimately, to what extent are we able to formulate policies and laws that make distance education a full-fledged legal education, with its foundations, assessments and legitimate degrees? What are the trends encouraging the transition to distance education in part or in whole?

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