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EDUCATIONAL EXPERIENCE IN MIXED MODALITY IN THE MODULAR SYSTEM IN STATISTICS

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“ Teaching those who are not curious to learn is sowing a field without plowing it. “
Richard Whately.

PRESENTATION:

<https://youtu.be/tTP5cKi-8W8>

Abstract: The main objective is to present some reflections of the process that the community of the Divisional Trunk of Social Sciences and Humanities of the Autonomous Metropolitan University Xochimilco unit has experienced, in the face of the health emergency, mainly in the students of the 2nd quarter of “History and Society”. in the Statistics Course. Now in its Mixed Modality according to the Teaching Transition Program in the Mixed Modality (PROTEMM).

Faced with the health emergency, which today has been two years and a few months, we have learned to use new technologies that before, both teachers and students did not use. In the new generations of students new to the University, the majority had to take virtual classes in their upper secondary education. When they entered the University they also had to take virtual classes, without knowing the University facilities, now with the modality mixed they go to the University some days. In this quarter that just ended in May 2022, before starting it was necessary to plan mixed classes, where the University took a series of measures such as the capacity in the classrooms, the care protocols in the University community, making the Transition Program of Teaching in the Mixed Modality (PROTEMM) and disseminating it in their community.

The first thing we reviewed was: what tools we could continue using to plan a blended course. Coordinate the in-person days and the virtual days according to the capacity of the classrooms and assigned schedules, the technology to be used, how we would carry

out the mathematics program, Statistics, how the changes were going to be made, now the students would know the facilities of the University, for which, intuition made small groups to tour it.

A survey was carried out among the students of the Divisional Core of Social Sciences and Humanities of the 2nd quarter of “History and Society” in the Statistics Course, through a survey at the end of the course. This way we know their opinion upon returning to face-to-face classes, only from some students, since not all of them answered the survey and it was only to the groups that were assigned to me, however it gives us an idea of what they think. The statistical yearbook published by the University in 2019, 2020 and 2021 was also reviewed to see if there were changes in the students who enter, their ages and which schools they come from in their upper secondary education.

In this work we reflect on mixed classes, in a return to academic activities in Mathematics Teaching, specifically in Statistics, both in-person and virtual with the aim of moving towards in-person classes, returning to 100% activities at the University in a near future to the next quarter.

For some students, the virtual class is an advantage, they mention that it is easy to follow and review several times, others save on transportation and time getting to the university, for others it is a distraction and they lose attention, since they do not find themselves in a private place when taking their class. 61% answered that they prefer 50% virtual and 50% in-person, 100% virtual for 7% and 100% in-person for 29%. The response varies according to the interests of each person, since some work and study.

Keywords: mixed, in-person, virtual

BACKGROUND

Teaching Transition Program in Mixed Modality (PROTEMM)

“With PROTEMM, various forms of mixed modality will be implemented, balancing the educational needs of different divisions and departments with the imperative to control health risks. This way, it is intended to manage the gradual return to face-to-face activities, maintaining a high level of flexibility during the process, not only in terms of the development of teaching, but in terms of the possibilities of opening collegiate discussions regarding the future of our Institution.

The University considers that the return to face-to-face activities must take into consideration the changes experienced in different fields of daily life, as a result of the global conditions of recent months, and recognizes the collective learning achieved with total sensitivity to the losses suffered by our community.

The possibilities offered by technologies, as well as changes in family dynamics, particularly in the case of students, require an innovative and at the same time responsible response on the part of the Institution, in the modernization of the forms and mechanisms to fulfill its mission.

By announcing the transition to mixed mode teaching, the University’s commitment to building an Institution that looks to the future and incorporates the lessons learned during the health emergency is reaffirmed.”

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AIM

The main objective is to present some reflections of the process that the community of the Divisional Trunk of Social Sciences and Humanities of the Autonomous Metropolitan University Xochimilco unit has experienced, in the face of the health emergency, mainly in the students of the 2nd quarter of “History and Society”. in the Statistics Course.

Now in its Mixed Modality according to the Teaching Transition Program in the Mixed Modality (PROTEMM).

INTRODUCTION

In the Mixed Modality Teaching Transition Program (PROTEMM), the first thing we reviewed was: what tools we could continue using to plan a mixed course. Coordinate in-person days and virtual days according to the capacity of the classrooms and assigned schedules, the technology to be used, how we would carry out the mathematics program, Statistics. Now the students would get to know the University facilities, for which, intuition made small groups to tour it.

STATISTICAL YEARBOOK 2019, 2020, 2021 UAM

A review of the statistical yearbooks of the University (UAM) was carried out in the years 2019, 2020 and 2021 to see if there were any differences before and after confinement in terms of the number of applicants, ages, gender, in the number of students in the different study plans, in the Division of Social Sciences and Humanities of the Xochimilco unit.

We can see in the graphs that there are some small differences and others not, in the following tables of the yearbook:

2019

2020

2021

ORIGIN SCHOOL	XOCHIMILCO				XOCHIMILCO				XOCHIMILCO			
	CSH	CBS	CAD	TOTAL	CSH	CBS	CAD	TOTAL	CSH	CBS	CAD	TOTAL
UNAM - ENP	123	456	96	675	129	530	125	784	125	549	112	786
UNAM - CCH	120	380	89	589	94	360	89	543	94	398	105	597
IPN - CECYT	117	388	127	632	117	401	134	652	168	719	168	1,055
COLEGIO DE BACHILLERES	4,319	9,297	2,913	16,529	3,610	9,196	2,531	15,337	3,754	9,803	2,746	16,303
DGTI - CET	790	1,566	615	2,971	637	1,536	488	2,661	597	1,553	451	2,601
DGTI - CBTI	276	1,156	210	1,642	322	1,280	234	1,836	344	1,399	234	1,977
DGTI - CBTA	33	188	20	241	23	165	4	192	15	154	22	191
DGTI - CBTF	3	7	2	12	1	8		9	1	19		20
DGTI - CETMAR	9	18	3	30	9	16	4	29	16	31	3	50
DGTI - ITR	2	12	4	18	2	11		13	3	4	2	9
Primary normal	9	56	10	75	9	26	8	43	7	28	4	39
State university	20	175	14	209	17	197	16	230	10	227	12	249
UAEM	59	284	35	378	64	344	40	448	54	364	54	472
CONALEP	534	1,117	250	1,901	429	1,104	217	1,750	398	1,051	213	1,662
Public	6,414	15,100	4,388	25,902	5,463	15,174	3,890	24,527	5,586	16,299	4,126	26,011
Incorporated into the UNAM	341	1,266	254	1,861	285	1,258	244	1,787	330	1,323	264	1,917
Incorporated IPN	16	43	33	92	10	39	14	63	10	53	17	80
Incorporated into the SEP	1,261	3,702	763	5,726	994	3,668	638	5,300	1,043	3,573	624	5,240
Incorporated into other universities	20	184	17	221	25	226	11	262	23	215	16	254
Incorporated into the UNAM E.M.	32	229	24	285	32	242	26	300	43	217	28	288
Private	1,670	5,424	1,091	8,185	1,346	5,433	933	7,712	1,449	5,381	949	7,779
Not defined	930	2,807	538	4,275	635	2,498	451	3,584	624	2,619	426	3,669
TOTAL	9,014	23,331	6,017	38,362	7,444	23,105	5,274	35,823	7,659	24,299	5,501	37,459

UNIT	AGE OF APPLICANTS						TOTAL 2019
	17 or less	18	19	20	21 to 23	24 or over	
Xochimilco	6,484	12,247	8,002	4,112	4,862	2,655	38,362
	16.9%	31.9%	20.9%	10.7%	12.7%	6.9%	100.0%

UNIT	AGE OF APPLICANTS						Total 2020
	17 or less	18	19	20	21 to 23	24 or over	
Xochimilco	7,486	11,359	7,072	3,697	3,995	2,214	35,823
	20.9%	31.7%	19.7%	10.3%	11.2%	6.2%	100.0%

UNIT	AGE OF APPLICANTS						Total 2021
	17 or less	18	19	20	21 to 23	24 or over	
Xochimilco	8,787	11,805	7,236	3,695	3,750	2,186	37,459
	23.5%	31.5%	19.3%	9.9%	10.0%	5.8%	100.0%

DIVISION / UNIT	APPLICANTS		
	REGISTERED	STUDENT WHO DIDN'T PARTICIPATE THE EXAM	STUDENT WHO PARTICIPATED THE EXAM
CSH	9,889	875	9,014
CBS	25,808	2,477	23,331
CAD	6,462	445	6,017
Xochimilco	42,159	3,797	38,362

It includes all applicants who completed their online registration and signed their application

They are the applicants who take the admission exam (category considered for the calculation of acceptance rates)

2019

CSH	9,152	1,708	7,444
CBS	27,642	4,537	23,105
CAD	6,214	940	5,274
Xochimilco	43,008	7,185	35,823

2020

CSH	8,486	827	7,659
CBS	26,586	2,287	24,299
CAD	5,948	447	5,501
Xochimilco	41,020	3,561	37,459

2021

**By gender and quarter of entry
According to Unit and Division**

Division / Unit	SPRING			FALL			APPLICANTS 2019			%	
	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male
2019											
CSH	2,037	1,646	3,683	3,135	2,196	5,331	5,172	3,842	9,014	57.4	42.6
CBS	6,110	3,041	9,151	9,640	4,540	14,180	15,750	7,581	23,331	67.5	32.5
CAD	1,016	1,307	2,323	1,696	1,998	3,694	2,712	3,305	6,017	45.1	54.9
Unit: Xochimilco	9,163	5,994	15,157	14,471	8,734	23,205	23,634	14,728	38,362	61.6	38.4
2020											
CSH	1,813	1,216	3,029	2,594	1,821	4,415	4,407	3,037	7,444	59.2	40.8
CBS	6,353	2,891	9,244	9,593	4,268	13,861	15,946	7,159	23,105	69.0	31.0
CAD	1,037	1,089	2,126	1,548	1,600	3,148	2,585	2,689	5,274	49.0	51.0
Unit: Xochimilco	9,203	5,196	14,399	13,735	7,689	21,424	22,938	12,885	35,823	64.0	36.0
2021											
CSH	2,281	1,594	3,875	2,277	1,507	3,784	4,558	3,101	7,659	59.5	40.5
CBS	8,228	3,555	11,783	8,593	3,923	12,516	16,821	7,478	24,299	69.2	30.8
CAD	1,339	1,288	2,627	1,449	1,425	2,874	2,788	2,713	5,501	50.7	49.3
Unit: Xochimilco	11,848	6,437	18,285	12,319	6,855	19,174	24,167	13,292	37,459	64.5	35.5

*Por género y trimestre de ingreso
según plan de estudios
Unidad Xochimilco*

PLAN OF STUDIES	SPRING			FALL			APPLICANTS 2020			%	
	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male
Administration	498	495	993	831	671	1,502	1,329	1,166	2,495	53.3	46.7
Social communication	306	310	616	447	399	846	753	709	1,462	51.5	48.5
Economy	196	303	499	258	386	644	454	689	1,143	39.7	60.3
Psychology	842	373	1,215	1,324	531	1,855	2,166	904	3,070	70.6	29.4
Sociology	85	75	160	148	81	229	233	156	389	59.9	40.1
Politics and social management	110	90	200	127	128	255	237	218	455	52.1	47.9
CSH	2,037	1,646	3,683	3,135	2,196	5,331	5,172	3,842	9,014	57.4	42.6

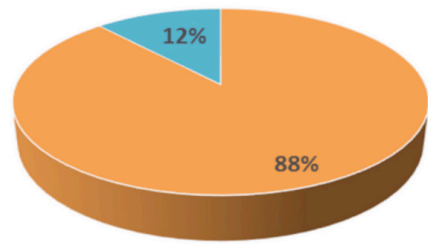
PLAN OF STUDIES	SPRING			FALL			APPLICANTS 2020			%	
	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male
Administration	412	365	777	680	595	1,275	1,092	960	2,052	53.2	46.8
Social communication	284	243	527	360	294	654	644	537	1,181	54.5	45.5
Economy	158	206	364	167	319	486	325	525	850	38.2	61.8
Psychology	805	294	1,099	1,200	478	1,678	2,005	772	2,777	72.2	27.8
Sociology	80	42	122	84	59	143	164	101	265	61.9	38.1
Politics and social management	74	66	140	103	76	179	177	142	319	55.5	44.5
CSH	1,813	1,216	3,029	2,594	1,821	4,415	4,407	3,037	7,444	59.2	40.8

PLAN OF STUDIES	SPRING			FALL			APPLICANTS 2021			%	
	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male
	Administration	547	487	1,034	528	447	975	1,075	934	2,009	53.5
Social communication	307	266	573	261	226	487	568	492	1,060	53.6	46.4
Economy	196	292	488	156	261	417	352	553	905	38.9	61.1
Psychology	1,063	431	1,494	1,192	479	1,671	2,255	910	3,165	71.2	28.8
Sociology	96	42	138	87	50	137	183	92	275	66.5	33.5
Politics and social management	72	76	148	53	44	97	125	120	245	51.0	49.0
CSH	2,281	1,594	3,875	2,277	1,507	3,784	4,558	3,101	7,659	59.5	40.5

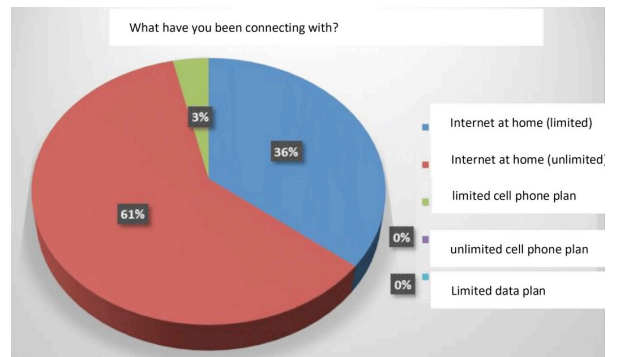
SURVEY AND RESULTS

A survey was carried out among the students of the Divisional Core of Social Sciences and Humanities of the 2nd quarter of “History and Society” in the Statistics Course, through a survey at the end of the course. This way we know your opinion upon returning to face-to-face classes.

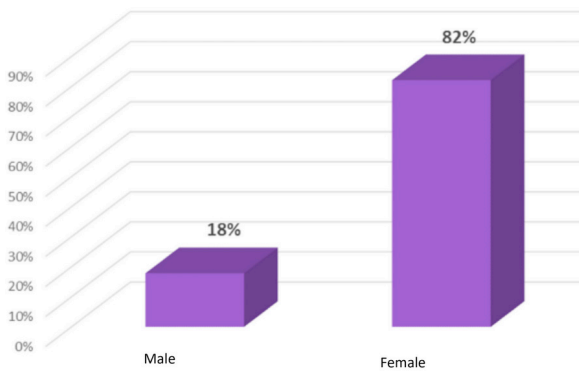
If there is another, which?



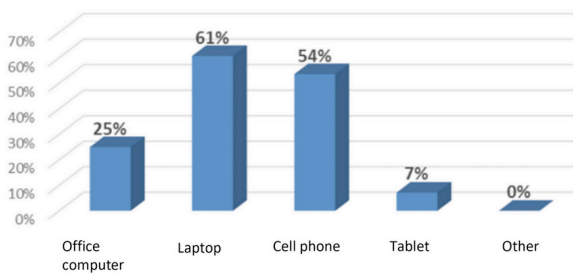
Legend: Laptop and cell phone (orange), Only laptop (blue)



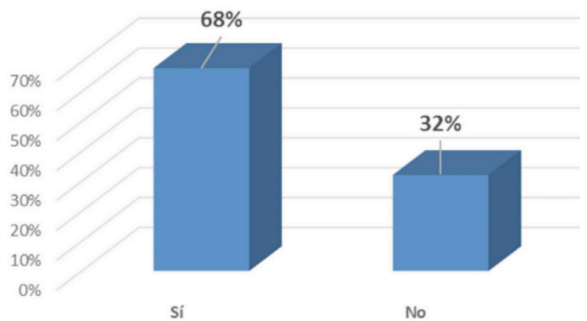
Gender



What equipment have you been connecting to the virtual course with? (you can choose several)



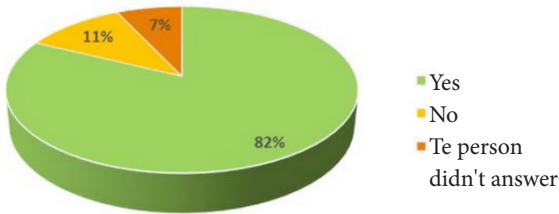
When you connect to the virtual course, are you in a private space?



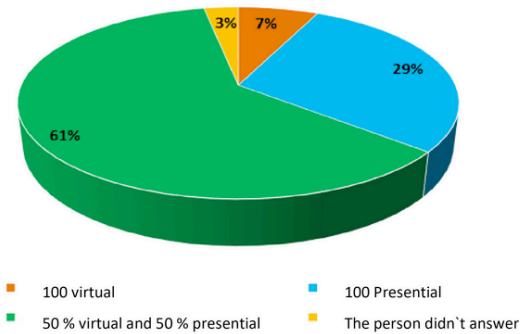
IF NO, WHY?

- There are times when my internet fails too much and takes me out of the meeting early.
- Personal problems
- The internet is an inconvenience

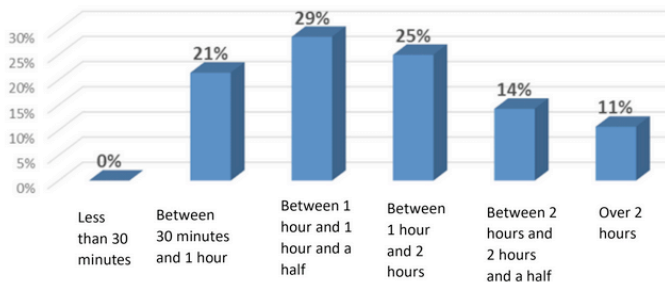
Have you stayed in the full zoom meeting?



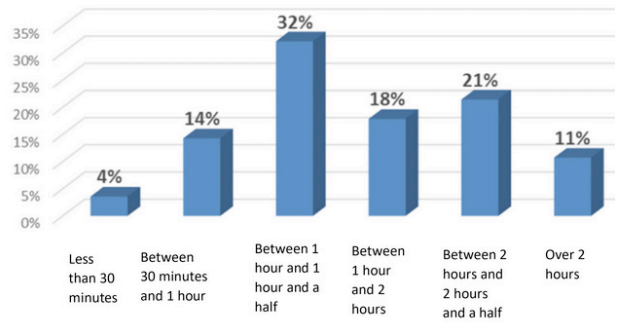
Which course do you prefer, just choose one?



How long does it take you from home to get to UAM-X?



How long does it take you from UAM-X to get home?

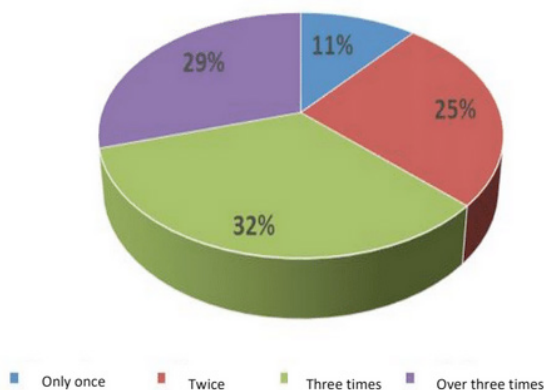


WHY YOUR CHOICE?

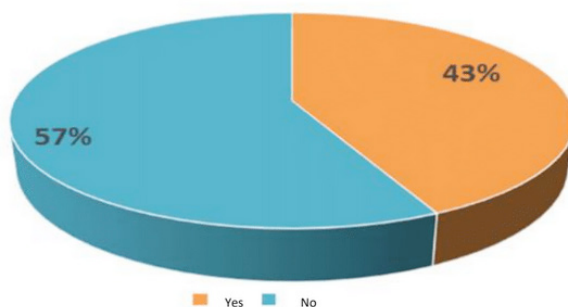
- I find virtual classes easier to follow and much more dynamic.
- I am very absent-minded, and the truth is that it is difficult for me to learn sometimes if it is not through some dynamic.
- In person it is a little easier for me to follow
- Personally, I like the in-person mode more since I can be more attentive, but in virtual mode, even though I don't want to, I tend to get distracted easily.
- Because sometimes it is easier for me to go to university and other times it is not, since at home I can take up the travel time to do my homework.
- From my perspective, it is comfortable to interact with your group mates and facilitates communication
- Because it is not a subject that requires practice in a laboratory and work in Excel can be done from home.
- On some occasions, presence is necessary because it improves coexistence.
- Because there are more opportunities to take advantage of resources to study and dedicate more time to it.

- I feel more comfortable
- The ease of carrying out some activities in virtual mode
- I understand things better in person because I am not distracted by noises or things that happen around me
- For personal reasons
- My learning is more like face-to-face, since I can resolve all my doubts adequately at that moment.
- Because of work since it is favorable for me, in addition the distance is very long from my house to school and I arrive home very late at 11:40
- Because in the face-to-face classes I couldn't see well and it was quite distracting and not at home, I concentrate more and make the most of my time, but the advantage of in-person classes is that I can coexist and get closer to my work team.
- It is comfortable for me to study from home, but having in-person classes makes me make better use of my stay at the UAM
- This way I have time to work
- I like virtual things but also in person when it is something very specific and difficult to understand.
- Because it is more interactive, less tedious, boring and in addition to the fact that I learn more, I feel that I have more opportunity by participating
- I have more interaction with the class and the teacher

How repeatedly have you reviewed the topics on the MOODLE Platform?

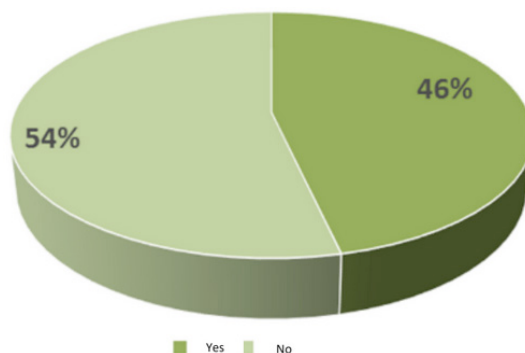


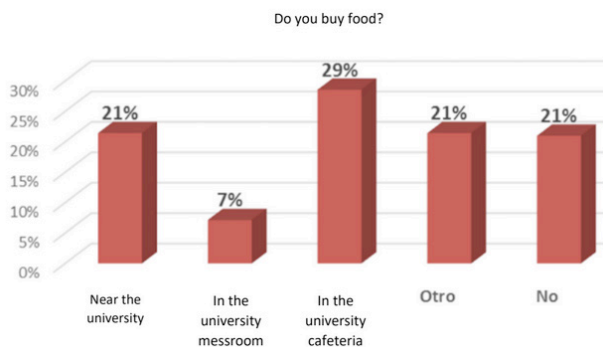
Do you have meals in the university?



- I don't buy food, rather, I eat before leaving home for school
- I eat until I get home.
- I Like at home
- I carry from my house

Do you take food?





SOME COMMENTS FROM STUDENTS ON ADVANTAGES AND DISADVANTAGES IN THEIR MIXED CLASSES:

- We can carry out different types of dynamics as a group that facilitate the understanding of the topics seen in class.
- It allows me to have a better rest during the week and greater comfort.
- That saves me transportation time
- Probably the biggest advantage, at least for me, is in the matter of transportation as this is mixed, taking into account that we only attended 1 day in person.
- Have more time to do my activities.
- Concentrate more and pay more attention since I am alone at home.
- Look carefully at the activities that the teacher is doing.
- Participate with more confidence since I am through the computer.
- It adapts to our personal needs.
- I have to travel for several hours to get to the campus to take the class.
- I can no longer interact with my colleagues to carry out certain activities.
- Sometimes I tend to get distracted by the noise they make outside my house.
- Travel time to the university.

- Si el ambiente no es agradable (Ruido, conversación familiar, etc) se dificulta la participación y concentración a los temas.

- If connections are unstable you can miss important topics

- Some zoom things cannot be seen when transmitted by the projector

- In the online case greater distractors, inefficient connectivity.

- It's hard for me to get around and I get home late and where I live it's a little dangerous.

SOME REFLECTIONS

- The vast majority are 82% women and 18% men, on the evening shift, it is important to point this out since this is where we obtained the information.

- At the time, 61% answered that they preferred 50% virtual and 50% in-person, since many work and study, I believe that the University must take this into account, since this would make it easier for students to continue with their profession. Some have to choose whether to continue with their job or the University and if they are the ones who provide the supplies at home, they choose their job, postpone their studies.

- A total of 29% answered 100% in person. Although now classes are 100% in-person, unless a teacher temporarily withdraws from their virtual class for some health reason. Taking in-person classes brings the community closer, human interrelation, among other things, closer.

- The important thing about all this we have been experiencing is the learning we have obtained. One of them is to

continue using technology to support teaching-learning.

- If we keep our virtual classroom on the platform we have chosen, we give students who for some reason did not attend the in-person class the opportunity to review it. This is an advantage for them, before you didn't have it if you didn't attend class you would lose it and if you wanted to get it back you would have to ask your classmates, especially those who took notes.
- Some virtual professions could be done as there are in other Universities, here we would have to be very creative so that the modular system is maintained and always accompanied by a Teacher, it would be quite a challenge as an Institution.

- There are advantages and disadvantages to both in-person and virtual classes. Some are pointed out by the students themselves, sometimes what is an advantage for one is a disadvantage for another and vice versa.

- For some, traveling to the University for more than two hours one way and another two hours back feels affected, although others do not. It is better for them to have mixed classes.

- For some who are in private spaces taking the virtual classes it works well, since they pay attention, for others it does not, their space is not private and they are easily distracted. It is clear that it is a challenge to try to keep everyone satisfied.

REFERENCES

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“We must reclaim the value of the word, a powerful tool that can change our world.”

William Golding