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STUDENTS' PERCEPTION OF PRACTICAL TRAINING IN **ONLINE EDUCATION DURING THE COVID-19 PANDEMIC**

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Abstract

In the context of pandemic times when human interactions were limited and traditional (face-to-face) education was interrupted, the purpose of this paper is to investigate the perception and attitude of students towards the efficiency of practical training activities (fieldwork, internship, seminars and laboratories) held in the online environment as part of the e-learning that they were subjected to for a whole academic year. Mainly quantitative methods have been used to collect data, analyse and draw conclusions about the research topic, from Likert scale survey questions (which were included in the online questionnaire that had been submitted to the participants at the educational process) to statistical tests using SPSS software. Results revealed the quality of the experience that University students had in terms of alternatives that replaced the traditional training activities. Firstly, in terms of fieldwork, students still consider it indispensable for their professional development no matter how much the technology would ever improve. Secondly, regarding internships, students have indicated the fact that their outcomes related to specific skills were negatively affected by COVID-19. Finally, seminars and laboratories seemed to be easier to attend and adjust compared to fieldwork and internship alternatives due to the adaptability of both professors and students.

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Keywords: E-learning, fieldwork, internship, laboratories, seminars



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1. Introduction

COVID-19 has definitely changed the way society used to function until the pandemic times forced it to adapt to the restrictions in terms of human interactions. One of the most affected areas, along with the medical domain and the tourism industry, was the educational one, which has been struggling to preserve its quality ever since the beginning of the pandemic. By focusing all its efforts on the digitalisation of the learning process, both professors and students, in general, and those from Faculty of Geography, in particular, had to cope with the national purpose of continuing their jobs and studies in the online environment in order to diminish the potential losses that the lockdown could have produced if study interruption would have been adopted.

Alone, or together with other disciplines, geography allows the development of many attitudes, capabilities and skills. It is no longer an object for knowledge accumulation, but one in which students can have the ability to explain the dynamics, processes and environmental changes, to situate places and facts on the map and field too.

In other words, Geography is considered to be a practical discipline, especially on academic level, and the training field applications, professional practices, seminars and practical works or laboratories are absolutely necessary for students. During the COVID-19 lockdown, it seems that these activities were most affected and effective adjustments were needed to carry them out.

It is true that, for decades, geography has been taught online in a successful manner and there were employed a lot of open educational resources in order to boost student implication in the virtual environment (OERs), and, at first glance, traditional (organised groups) field applications could be transformed in individual ones, in the local horizon, and students could use digital technology (Google Earth, Google Maps, Google Street View, 3D virtual tours), but the work fields, professional practices and seminars are a sine-qua-non especially for urban planning, geomorphology understanding.

The efficiency of professional practices and seminars and practical works especially depended on tutor profile institution and university politics, in order to avoid affecting the chances of doing the internship, detracting from the quality of students' work and limiting the learning experience and the acquisition of new skills.

1.1. Geography matters

"As a discipline, geography differs greatly both in content and in pedagogical techniques" (Schultz & DeMers, 2020, p. 142). There is a difference between a world regional course, political geography and physical geography (geomorphology) that could best be taught in outdoor through active learning and participatory research (Răcăşan et al., 2021) or include practical activities in a laboratory (Schultz & DeMers, 2020).

There are several studies which approached Geography as a subject matter (considered to be a more practical one) during and after pandemic, that revealed the lack of practical activities among students. The lockdown affected the way Geography is being taught and learned (Chang, 2020).

This is difficult for a Geography teacher who taught in the classroom their entire career and has not used technological methods and tools (Schultz & DeMers, 2020, Hastuti et al., 2021).

The most pessimistic studies revealed that "more than 80% of the teachers consider that the current digital tools" cannot replace the traditional face-to-face activities (educational itineraries, laboratory practices, excursions) (Llorente-Adan, 2020, p. 328), the more so as "undergraduate students seem to value most in fieldwork experiences, the advantages of human interactions, whether social or professional ones, which result in improved skills and competencies, often reflected in personal qualities as well" (Răcăşan & Egresi, 2020, p. 17).

As an example, even Geography teachers, candidates from Turkey, declared that "they lack practical vocational skills as they complete their continuing internship in high schools and secondary schools within the scope of a teaching practice course" (Ozkaral & Bozyigit, 2020, p. 473).

When referring to the practical side of geography, we could mention GIS technologies that are newly incorporated into several academic disciplines and include "spatial analytical tools, streaming data services, maps and web mapping applications and virtualisation techniques to teach these subjects online" (Geraghty & Kerski, 2020, p. 53).

Moreover, Geography, through GIS, helped specialists, professors and students to better observe the "spatial interactions that had been spreading and aggravating the virus, using interactive mapping tools" (Wright, 2020, as cited by Geraghty & Kerski, 2020, p. 54).

We can contextualise coronavirus geographically, taking into consideration the rate of infection, vulnerability, resilience, blame, immunization, interdependence and care areas (Sparke & Anguelov, 2020).

However, there are studies that showed the successful version of using photographs to enable learning of Geography during the educational process organised synchronously and asynchronously (Dulamă & Ilovan, 2020).

1.2. Similar studies

Most studies that investigated students' opinions, perceptions or attitudes focused on the quality of education, social life, and mental health. For example, Chaturvedi et al. (2021) conducted a study that focuses on all these aspects. The quality of education focused on the time spent in online education platforms and individual study, medium used for learning, social life - sleeping programme, daily fitness activities, and mental health - frustration, stress, and depression. The conclusion is that educators and students should receive training in teaching/learning during crisis situations

Similarly, Roman and Plopeanu (2021) investigated Romanian economics students' preferences for different learning methods (traditional, online and hybrid). The results showed that with increasing pandemic stress students tend to prefer only classes to classroom learning. Moreover, the study showed that "students residing in urban areas are less likely to prefer classroom learning and more likely to prefer hybrid learning compared to those residing in rural areas. However, previous studies have shown that a hybrid form of education generates identical or even better results than conventional face-to-face education" (Ryan et al., 2015, p. 285).

Other studies (Baticulon et al., 2021; Dost et al., 2020; Khalil et al., 2020; Shawaqfeh et al., 2020; Tuma et al., 2021; Zhang et al., 2020), using cross-sectional surveys of students focused on preparedness,

attitudes, and barriers. The results showed that the need for training students and the faculty was highly associated with the level of grounding and limits rather than with infrastructure or computer literacy.

Muthuprasad et al. (2021) focused on understanding agricultural student's perception and preference regarding online learning. The results from the survey showed that the agricultural education system may not be possible completely in online and it must be run in a hybrid module.

Radha et al. (2020) agreed that in e-learning pedagogy, theoretical concepts can be effectively carried through various application tools making them more accessible to students' understanding, however, practical skills cannot easily be conveyed through these means. The researchers concluded from the data which had been collected from students that face-to-face teaching was important for practical learning (80% of respondents).

Another study that complained of the lack of sufficient hands-on training belongs to Agsari et al. (2021). The researchers proposed a solution in creating a virtual desktop environment in order to allow faculty and students to access necessary software.

Another solution for an efficient academic-practice during the pandemic is proposed by Zerwich et al. (2021) to universities: to implement an academic-practice partnership, by ensuring flexibility – the academic and practice partners, as well as the students, had to be willing to adjust as the situation changed. Academics need guidance in the use of technologies to support these fundamental practices (Littlejohn, 2020).

Fuller et al. (2021) think that new opportunities emerged, nonetheless. Although "students' experiences in planning placements were not so efficient online, they could engage with new digital skills that may be equally or more relevant in a rapidly changing world" (Fuller et al., 2021, p. 7).

Elhaty et al. (2020) think that crisis has affected the practical work more than the theoretical part and recommend using simulation software that enable students to make experiments via specialised programmes.

The way the pandemic affected the educational practice of outdoor and fieldwork activities is presented by Quay et al. (2020), suggesting for professors an Outdoor Environmental Education course (OEE).

2. Problem Statement

In pandemic conditions, creating effective learning environments, whether synchronous, fully online, or hybrid, requires a lot of planning, design and forethought, especially when these actions aim to develop practical skills and professional competences to students.

Therefore, this survey, based on a questionnaire addressed to students, follows three research directions: fieldwork (under the circumstances of total absence of traditional outdoor practical training), internships (professional practices), and seminars and laboratories (practical works) on pandemic conditions.

3. Research Questions

- What was the perception and attitude of students towards the alternatives to traditional fieldwork during COVID-19 pandemic?
- How did the students perceive and weigh COVID-19 pandemic effects on their professional development ensured by internship alternatives that have replaced the classical ones?
- What was the students' perception and attitude towards the effectiveness of seminars and laboratories during the COVID-19 pandemic in terms of learning experience?
- Were there any statistically significant differences in attitude and perception between various socio-demographic groups of students?

4. Purpose of the Study

The main purpose of this paper is to investigate the perception and attitude of students from the Geography of Tourism Specialisation (Faculty of Geography, Babeş-Bolyai University) towards the effectiveness of practical training activities related to eLearning process – that they were subjected to for the last three semesters because of COVID-19 pandemic – and the correspondent educational alternatives that professors managed to find in order to ensure their professional development through non-traditional fieldwork (online alternative), internship solutions and adjustments of the classical seminars and laboratories.

5. Research Methods

Data collecting and processing. The methodological design of the study involved mainly quantitative methods supported by observation and analysis of data. For the collection process, an online three-section questionnaire was submitted to students, using Google Forms. They were asked to express their opinions towards 15 statements regarding the three research directions by rating them on a 1 to 5-point Likert scale. Afterwards, the 150 answers received were processed and interpreted by means of descriptive and inferential statistics, using both Excel and SPSS software. Two special tests were run to determine if there were any differences in attitude scores between groups: a Kruskal-Wallis H test for the three groups according to year of study (first year, second year and third year students) and a Mann-Whitney U test for the two gender groups (males and females). All quantitative results are represented in a tabular format.

Participants and research context. 150 students from Babeş-Bolyai University, mostly females from Faculty of Geography, in Cluj-Napoca, Romania, took part in this research study, almost one third of them representing each year of study of the Bachelor's degree programme in Geography of Tourism Specialization (Table 1). Given the pandemic context and the digitalisation in higher education, we pointed out that 36.7% of these students also worked during the academic year 2020-2021 while studying online, either full-time or part-time, and only a small percent in tourism and hospitality industry.

Variable	Groups	Ν	% of total
	Year 1	55	36.7
Year of study (n=150)	Year 2	49	32.7
-	Year 3	46	30.7
$C_{\text{aut}} \dim (n-150)$	Male	39	26.0
Gender (n=150)	Female	111	74.0
	Yes, full-time	25	16.7
studying online	Yes, part-time	30	20.0
studying online	No	95	63.3
	Yes	12	8.0
Job in tourism and hospitality	No	43	27.7
-	Did not work	95	63.3

Table 1. Research participants' profile

6. Findings

6.1. Students' perception and attitude towards the alternatives to traditional fieldwork

By assessing the six statements regarding our first direction of study – alternatives to traditional fieldwork (Table 2) – one third of the students (33.3%) expressed their agreement towards the possibility of locally organised fieldworks for individuals rather than for groups of students. However, 23.3% of them remained hesitant towards this alternative for the classical fieldwork, while a similar percentage of participants (about 15% of them) had either a positive or a negative attitude with respect to this option.

Regarding the ability to understand the theory taught in online classes, although 24.7% of students felt that the COVID-19 pandemic did not have negative effects on it, other 22% of them declared their dissatisfaction generated by the lack of classical fieldwork.

Given the uncertainty in predicting the Coronavirus evolution, most of the answers (27.3%) related to the fact that COVID-19 will completely change the characteristics of the field course even after the pandemics, showed ambivalent attitudes towards the future organisation of traditional fieldwork.

Still, up until now it seems that satisfying alternatives to classical fieldwork have not been identified considering that almost half of the students completely disagreed (26.7%) or simply disagreed (22%) to the online activities that could not replace the field experience neither in terms of knowledge acquisition, nor in competence development according to the requirements of a job in tourism or hospitality industry. Less than 15 students (9.3%) out of 150, have fully embraced the alternatives to traditional fieldwork either because of their higher capacity to understand the limitations which the professors faced when trying to adapt to the Coronavirus restrictions or because of their propensity to stay safe in their comfort zone.

Further assessment of the classical fieldwork in relation to the digital technology that could make the former become obsolete showed that no matter how much the latter would improve, this kind of learning experience could never be delivered electronically. At least, these were the opinions of 63,4% of the students, according to our findings, whereas solely 14.7% put their trust in the digital technology (Google Earth, Google Maps, Google Street View, 3D virtual tours).

Finally, 86% of the participants disagreed with the fact that traditional fieldwork had lost its importance, perhaps because students know or foresee the advantages in terms of competence development, vocational and social skills improvement.

	Totally disagree (%)	Disagree (%)	Not sure (%)	Agree (%)	Totally agree (%)	Median	IQR
The lack of classical fieldwork has not affected my ability to understand the theory being taught in	33 (22.0)	28 (18.7)	27 (18.0)	37 (24.7)	25 (16.7)	3	2
Alternative activities have successfully replaced classical fieldwork	40 (26.7)	33 (22.0)	37 (24.7)	26 (17.3)	14 (9.3)	3	3
Locally organised individual fieldwork could become a viable alternative for the classical fieldwork class (organised for groups of students)	22 (14.7)	20 (13.3)	35 (23.3)	50 (33.3)	23 (15.3)	3	2
Digital technology (Google Earth, Google Maps, Google Street View, 3D virtual tours) will make classical fieldwork obsolete	58 (38.7)	37 (24.7)	33 (22.0)	15 (10.0)	7 (4.7)	2	2
I no longer consider classical fieldwork to be necessary	104 (69.3%)	25 (16.7)	9 (6.0)	7 (4.7)	5 (3.3)	1	1
COVID-19 will completely change the way we do field courses even after the pandemics	27 (18.0)	30 (20.0)	41 (27.3)	32 (21.3)	20 (13.3)	3	2

Table 2.	Students' attitudes towards the lack of traditional fieldwork activities during the COVID-19
	pandemics

The Kruskal-Wallis H test that was run to determine whether or not there were differences in attitude between the three groups of participants (first year, second year and third year students) showed statistically significantly different distributions of attitude scores for all groups as assessed by the visual inspection of a boxplot. The mean ranks of attitude scores were statistically significantly different between groups for two items: "Digital technology (Google Earth, Google Maps, Google Street View, 3D virtual tours) will make classical fieldwork obsolete" (X(2)=8.042, p=.018) and "I no longer consider classical fieldwork to be necessary" (X(2)=15.819, p=.000).

As shown below (Table 3), the most negative were second year students, perhaps because they are the most disappointed about the lack of a chance to take classical fieldwork studies in the first and second year due to COVID-19 and they already know that during the third year this course is not offered. First year students still hope to take the course in the second year, while third year students already had the opportunity to participate in the fieldwork courses during their first year of Bachelor's degree program

Attitude	Group	Mean ranks (m)	Test statistic	Degree of freedom	Asymp. Sig. (2 sided test)
Digital technology (Google	Year 1	67.97			
Earth, Google Maps, Google Street View, 3D virtual tours) will make classical fieldwork obsolete	Year 2	89.28			
	Year 3	69.83	8.042	2	.018
	Year 1	70.45			
fieldwork to be necessary	Year 2	91.59	91.59 15.819		.000
	Year 3	64.40			

Table 3.	Statistically significant differences in attitude scores towards the lack of traditional field
	courses during COVID-19 among groups of students based on their year of study

Another difference in attitude scores that was statistically significant (X(2)=8.502, p=.014), regarded the last statement (Table 4). Thus, those who worked full-time or did not work while taking classes during the pandemics were rather ambivalent about the idea that the pandemics changed the way we think about field courses. Surprisingly, it was the group of students who worked part-time that disagreed most with this statement.

 Table 4.
 Statistically significant differences in attitude scores towards the lack of traditional field courses during COVID-19 among groups of students based on their employment status

Attitude	Group	Median	Test statistic	Degree of freedom	Asymp. Sig. (2 sided test)
COVID-19 will completely	Yes, full time	3.00			
change the way we do field	Yes, part time	2.00	8.502	2	.014
courses even after the pandemics	No	3.00	_		

Finally, the Mann-Whitney U test that was run to determine if there were differences in attitude scores between the two gender groups (male and female). The analysis showed no statistically significant differences related to any of the attitude items listed in Table 2.

6.2. Students' perception and attitude towards the internship alternatives related to their professional development

Regarding the second research direction, more precisely the internship experience, the participants to this study presented opposing impressions mostly in terms of tutor's involvement and the quality of their work (Table 5). Thus, while 34.7% totally disagreed or disagreed with the fact that COVID-19 has not affected the tutor's participation in their professional development, 44% agreed or totally agreed with it.

Concerning the quality of their work during the internship, almost half of the students felt that it was negatively affected, whereas one third of them could not tell the difference. This could be assigned to the impossibility of comparisons between internship because, for most of them, this was the first and last opportunity to participate in a professional internship during the fourth semester of university studies.

However, 59.4% of our subjects were convinced by the fact that COVID-19 diminished their chances to do an internship and for those who did it during the pandemics – the same students – a common aspect was the fact that their learning experience was affected, along with the development of certain abilities in the internship period.

	Totally disagree (%)	Disagree (%)	Not sure (%)	Agree (%)	Totally agree (%)	Median	IQR
COVID-19 has not diminished my chances to do an internship	52 (34.7)	37 (24.7)	26 (17.3)	15 (10.0)	20 (13.3)	2	2
COVID-19 has not affected the tutor's participation in my professional development	25 (16.7)	27 (18.0)	32 (21.3)	34 (22.7)	32 (21.3)	3	2
COVID-19 has not affected the quality of my work during the internship	28 (18.7)	44 (29.3)	31 (20.7)	26 (17.3)	21 (14.0)	3	2
COVID-19 has not affected in a negative way my learning/development of certain abilities during the internship (done either online or in institutions).	55 (36.7)	34 (22.7)	23 (15.3)	26 (17.3)	12 (8.0)	2	3

Table 5. Students' attitudes towards internship activities during the COVID-19 pandemics

The Kruskal-Wallis H test, according to the year of study criterion, illustrated the same distribution of attitude scores across the three categories (p>.05). It is worth mentioning that those who believed that COVID-19 affected the quality of their work during the internship were exactly those students who also had jobs, either full-time or part-time (Table 6). Perhaps this happened because they had the chance to compare their work outside the internship on the before and after pandemic moments. A logical hypothesis could be related to their lack of time which otherwise would had been invested in the internship not in their jobs or simply because they had higher expectations in terms of internship outcomes given their awareness of the labour market.

 Table 6.
 Statistically significant differences in attitude scores towards internships during COVID-19

 pandemics among groups of students based on their employment status

Attitude	Groups (worked during the pandemics)	Median	Test statistic	Degree of freedom	Asymp. Sig. (2 sided test)	
COVID-19 has not	Yes, full time	2.00				
affected the quality of	Yes, part time	2.00	7.348	2	.025	
my work during the internship	No	3.00	_			

Again, by running the Mann-Whitney U test, it came out that there were no statistically significantly differences in attitude scores between the two gender groups and the distribution was the same (p>.05) across categories related to items in Table 5.

6.3. Students' perception and attitude towards the effectiveness of seminars and laboratories during the COVID-19 pandemic

The third and final research direction focused on the learning experience ensured by seminars and laboratories during the pandemic period. One can notice in the table below that, except for the first statement (towards which the attitude of students was rather neutral), students agreed (median 4) with all the statements in this section (Table 7).

To start with, over 60% of the participants in this study indicated that it was not difficult to collaborate with their classmates during the whole semester or on final projects whenever teamwork was expected from them, perhaps due to their keen sense of technology and rapidly adapting to devices used in digital education. For the same reason, 58% of them did not find it complicated to give online presentations of the projects they had previously prepared in small groups or on their own.

Also significant for establishing their overall perception, almost two thirds of the questioned students suggested that they managed the tasks assigned by the professors mainly because, as most of them observed (55.4%), professors managed to find alternatives to classical teaching methods and techniques so that knowledge acquisition was not affected. However, while some of them (40%) missed fully-equipped classrooms, others (45.4%) did not give so much credit to technology and equipment in the context of their learning experience, which was not diminished by the lack of specialised infrastructure and hardware.

	Totally disagree (%)	Disagree (%)	Not sure (%)	Agree (%)	Totally agree (%)	Median	IQR
My learning experience was not diminished due to not having access to classrooms	24	36	22	40	28		
equipped with all the necessary technology and equipment.	(16.0)	(24.0)	(14.7)	(26.7)	(18.7)	3	2
My professors managed to find alternatives that							
successfully replaced classical teaching methods and techniques so that knowledge acquisition was not affected.	18 (12.0)	31 (20.7)	18 (12.0)	46 (30.7)	37 (24.7)	4	2
It was not difficult for me to manage the tasks I was assigned by my professors.	18 (12.0)	25 (16.7)	17 (11.3)	52 (34.7)	38 (25.3)	4	3
I did not find it difficult to collaborate with my classmates (whenever teamwork was expected) on final projects.	19 (12.7)	26 (17.3)	13 (8.7)	45 (30.0)	47 (31.3)	4	3
I did not find it difficult to give online presentations on the projects I worked on.	23 (15.3)	21 (14.0)	19 (12.7)	39 (26.0)	48 (32.0)	4	3

 Table 7. Students' attitudes towards classroom practical training (seminars and laboratories) activities during the COVID-19 pandemics

The Kruskal-Wallis H test brought into light the fact that second year students remained undecided whether or not it was difficult for them to manage the tasks assigned by their professors (Table 8), perhaps because of the higher degree of complexity and implication required by second year curricula compared to the first year that this group of students experienced both traditional (face-to-face education during the first semester) and online (during the second semester of transition to a whole academic year that unfolded likewise)

Attitude	Group	Median	Test statistic	Degree of freedom	Asymp. Sig. (2 sided test)
It was not difficult for me to manage the tasks I was assigned by my professors.	Year 1	4.00			
	Year 2	3.00	10.404	2	.006
	Year 3	4.00	-		

 Table 8.
 Statistically significant differences in attitude scores towards managing tasks in online setting during COVID-19 among groups of students based on their year of study

With respect to the collaboration process, the same test (Kruskal-Wallis H) revealed that younger students did find it easier than older students to work together remotely on projects (Table 9), maybe because they do not know other kind of interaction with their peers since both semesters and, thus, all their academic experience (up until the moment of our study) remained in the online environment.

 Table 9.
 Type Statistically significant differences in attitude scores towards collaborating with classmates during COVID-19 pandemics among groups of students based on their year of study

Attitude	Group	Mean ranks	Test statistic	Degree of freedom	Asymp. Sig. (2 sided test)
I did not find it difficult to collaborate	Year 1	87.29			
with my classmates (whenever teamwork was expected) on final projects.	Year 2	75.43	9.464	2	.009
	Year 3	61.48			

It also become more obvious that those who did not work were more likely to find working with peers on projects not so challenging (Table 10) compared to the students who worked (part-time or full-time) as the temporal resources were limited for the latter group.

 Table 10. Statistically significant differences in attitude scores towards collaborating with classmates during COVID-19 pandemics among groups of students based on their employment status

Attitude	Group	Mean ranks	Test statistic	Degree of freedom	Asymp. Sig. (2 sided test)
I did not find it difficult to collaborate with	Yes, full time	57.22	8 242	2	016
my classmates (whenever teamwork was	Yes, part time	68.47	0.242	2	.010

expected) on final projects.	No	82.53

One last interesting finding in attitude assessment of the two groups of students according to gender, was the fact that females were more positive concerning the statement that professors managed to find alternatives that had successfully replaced classical teaching methods so that knowledge acquisition was not affected (Table 11).

 Table 11. Statistically significant differences in attitude scores towards practical training activities (seminars and laboratories) during COVID-19 pandemics among groups of students based on their gender

8				
Attitude	Group	Median	Test statistic	Sig.
My professors managed to find alternatives that	Males 3.00			
successfully replaced classical teaching methods	Females	4.00	2713.000	.016
and techniques so that knowledge acquisition				
was not affected.				

7. Conclusion

Trailing the three research directions that this paper took into account the conclusions also follow the same pattern. First of all, it should be kept in mind the fact that even though students are, generally, ambivalent about most of the fieldwork alternatives, they disagree with the fact that digital technology would ever make classical fieldwork obsolete and strongly agree with the idea that classical fieldwork is indispensable to someone who studies Geography in general and Geography of Tourism in particular.

Secondly, students tend to agree that not only COVID-19 diminished their chances to do an internship, but it also affected their learning and development of certain abilities while doing the internship.

Finally, as most students agree, seminars and laboratories are not difficult to attend as long as professors manage to find alternatives that successfully replace traditional teaching in order to ensure a proper experience among those who focus more on their education rather than on their jobs or anything else.

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