



Examining the Pros and Cons of Resuming Face-to-Face Teaching: A Case Study of the Leveling Course at Universidad de las Fuerzas Armadas - ESPE Sede Latacunga


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Abstract: The aim of this study is to conduct a situational analysis of the benefits and drawbacks of returning to face-to-face courses in the Leveling Courses of the Universidad de las Fuerzas Armadas ESPE Sede Latacunga during the post-COVID-19 era. This will be done by comparing the virtual study mode in 2022 to the face-to-face mode in 2023. The results of this analysis will assist higher education institutions in creating interventions that promote resilience in students who are transitioning from high school to undergraduate education and reducing dropout rates. The study employs prospective methods that include historical-logical empirical methods and a review of relevant documents. The findings of the study indicate that face-to-face attendance has a positive impact on students' classroom experience. The study also highlights the need for a paradigm shift in higher education based on this experience. The proposed solution involves updating the curricula, embracing the expanded use of information and communication technology (ICT), enhancing students' soft skills, improving pedagogical training, and reinforcing hybridization to provide a defense against constant crises.

Keywords: Classroom Education, Distance Education, Virtual Education

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Introduction

The COVID-19 Coronavirus pandemic has accelerated many changes in society, defines our time and is the greatest challenge humanity has faced so far this century. Higher Education is not exempt from the psychological and academic effect it caused in university students (Martínez-Rivera, 2022; Zapata-Ospina et al., 2021), due to the digitalization of human activities and relationships, the economy and the health system, causing uncertainty about the future and impeding their academic performance and personal well-being (Rodríguez-Alarcón et al., 2022) and was evident in the change from virtuality to the current normality in classrooms.

Since March 2019, universities have adopted remote or virtual modalities for their educational processes, using online platforms (Roque et al., 2021) to provide both synchronous and asynchronous learning opportunities via smartphones with internet access, laptops, or tablets. However, this new education model, which involves self-learning, has caused many students to drop out (Prince, 2020). Limited access to technological devices and the internet connection (Oloris & Fernández, 2021) has played a determining role in the learning competence of students (Carabantes et al., 2021).

In a scale measuring academic repercussions from 13 Latin American countries, other factors contributing to student dropout include poor adaptation, low GPA, and the possible accelerated pace of classes (Rodríguez-Alarcón et al., 2022). COVID-19 has also had a significant impact on university teachers, with economic, emotional, and social effects due to the pressure to adopt new methodological structures and develop pedagogical and technological competencies in response to the health emergency (Burbano et al., 2020; Cevallos et al., 2023). The pandemic has also presented new challenges for teaching practices and policies in the development of digital learning (Shah et al., 2021).

Ecuador's higher education system consists of universities, polytechnic schools, technical and technological institutes, and other higher education centers recognized by the State. The system is divided into two main levels: the Higher Technical Level and the Third Level. The Higher Technical Level comprises technical and technological training programs of short duration (ranging from 1 to 3 years) that are taught in technical and technological institutes. On the other hand, the Third Level includes undergraduate programs (bachelor's degrees) and graduate programs (master's and doctoral degrees) offered by universities and polytechnic schools. Leveling Courses system serves as a preparatory stage for higher education and is crucial in ensuring that students have the necessary skills and knowledge to excel in their studies. Leveling courses, while not formally considered part of higher education, are a prerequisite for admission and play a vital role in reducing student dropout rates due to academic difficulties (Altamirano & Alarcón, 2020).

In this study, we aim to analyze the academic progress of students enrolled in the leveling course of various programs at the Universidad de las Fuerzas Armadas ESPE, Latacunga campus, who have recently transitioned

from virtual to face-to-face classes after three years. The Universidad de las Fuerzas Armadas ESPE is a public higher education institution with a century-long history, located in Sangolquí, Ecuador, with additional campuses in Santo Domingo and Latacunga. The Latacunga campus primarily serves students from middle socioeconomic backgrounds in the central region of the country, with a minority from other provinces of Ecuador.

The research begins with a thorough review of relevant literature, including research articles, reports, surveys, and testimonies of both teachers and students regarding the new reality of face-to-face teaching after the COVID-19 pandemic. The objective is to identify the advantages and disadvantages of returning to traditional classroom instruction and explore its potential correlation with student dropout rates. This is a critical issue that has been extensively studied by scholars (Acevedo Calamet, 2021) and requires endogenous solutions to transform the university system (Barrios et al., 2022). Such solutions must include a paradigm shift in higher education that emphasizes creativity and innovation.

Method

The article presented was developed using a mixed-methods approach, which allowed for a more comprehensive understanding of the phenomenon under study (Hernández-Sampieri & Mendoza, 2018). The study was theoretical in nature, as it aimed to interpret the reality of post-pandemic higher education. It had a descriptive scope, as it utilized reports, testimonies from teaching staff, and statistical data from students who completed the Leveling Course at the Universidad de las Fuerzas Armadas - ESPE sede Latacunga Headquarters, to explain how they behaved upon returning to face-to-face classes. The qualitative data collected through interviews and surveys provided an in-depth perspective of the subjective experiences of the participants, while the quantitative data allowed for a more objective analysis of the situation. The mixed-methods approach used in this study enhanced the validity and reliability of the findings, as it provided a more complete understanding of the phenomenon under study.

Study Area

The historical-logical method was used to conduct a comprehensive study of the impact of the COVID-19 pandemic on higher education, focusing on the internal issues that require further research. The objective of this research was to analyze the experiences of students and teachers in the Leveling course at the Universidad de las Fuerzas Armadas ESPE Sede Latacunga SII 2022. The study aimed to compare the remote and face-to-face modalities, with university professors providing insights into the transition. Simple random sampling was used to select a representative sample of students and teachers from various subjects. The study initially involved 1081 students and 44 teachers, but the equation proposed by Trujillo (2015) was used to determine a sample of 292 students for the survey. This approach enabled us to gather both objective and subjective data and obtain a deep perspective on the phenomenon.

Research Tools

The study conducted an assessment of the benefits and drawbacks of face-to-face attendance in the Leveling course based on the perceptions of teachers from the Department of Exact Sciences, which was documented in Table 1. The information was gathered from coordination reports and testimonies by study areas and then synthesized to construct surveys that categorized the advantages and weaknesses of this educational modality. Initially, the study had a large sample size of 1081 students and 44 teachers, and a sample of 292 students was selected using the equation established by Trujillo (2015) for survey administration. The questionnaires were developed in-house and consisted of demographic data, such as age and gender, and a rating scale for evaluating the strengths and weaknesses of face-to-face attendance in the Leveling course. The surveys were administered using Google Forms and comprised two dimensions with eight questions for students and nine questions for teachers, focusing on the advantages and disadvantages of face-to-face attendance. This tool enabled cross-comparison of data related to the students' and teachers' socioeconomic background, academic performance, and emotional well-being.

The survey design allowed for a detailed analysis of the benefits and drawbacks of face-to-face attendance in the Leveling course. The questions were designed to investigate multiple aspects of the academic experience, including motivation levels, interaction with peers and instructors, and overall satisfaction with the course. Furthermore, the survey aimed to gather data on the socioeconomic background of the students, including family income and educational history, to comprehend how these variables might influence students' and teachers' perceptions of face-to-face attendance.

The use of self-designed questionnaires and Google Forms was proven to be a highly effective and efficient method of data collection in the study. The insights obtained from both students and teachers' responses provided valuable insights into the advantages and disadvantages of face-to-face attendance in the Leveling course and helped to establish the impact of this educational modality on the academic performance and well-being of students. The findings from the study can be used to guide future decision-making processes related to higher education delivery, especially in the context of the ongoing COVID-19 pandemic. By comprehending the perspectives and experiences of students and teachers toward face-to-face attendance, institutions can formulate strategies to enhance the quality of education and ensure students' success.

Table 1: Teachers' perception of the advantages and disadvantages of face-to-face teaching

Advantages	Disadvantages
Direct student-teacher communication in the classroom	Economic crisis of the families (higher costs for transportation, housing, food, etc.)
Teachers and students developed skills with the use of ICTs	Distortion of values and preferences (often make them doubt the career they have chosen)
Internet connectivity on university premises	Less flexibility (specific and rigid schedules)

Advantages	Disadvantages
Equity in the use of the Wi-Fi network	Students with anxiety, stress and depression (aftereffects of the pandemic)
The capacity of the classrooms is 30 students, in the virtual classroom up to 60 students per session	Greater risk of contagion of infectious diseases
Greater interaction and social connection	Less accessible for students from remote geographic areas
Greater participation and motivation	The change of self-regulated learning skills acquired remotely
Smaller digital access gap	
Greater focus on personalized education	
Less distractions	
Facilitates understanding of topics	
Allows immediate consultation and clarification of topics	
Promotes collaboration and teamwork	
Solidarity and empathy among students	
E-learning imposes itself as a support system favoring the development of students' skills.	
Artificial intelligence appears redesigning the educational activity	

Leveling Course of the Universidad de las Fuerzas Armadas ESPE Sede Latacunga SII 2022

Results and Discussion

The surveys conducted with the teachers of the Leveling course provided valuable insights into the benefits and drawbacks of face-to-face attendance. Results showed that a majority of teachers, 81.8%, perceived higher student participation and commitment in the face-to-face modality, while 72.7% stated that they have made significant changes in their teaching methodology to ensure quality teaching. However, when asked about student desertion, opinions were divided, with 52.3% of teachers considering it to be unrelated to the disadvantages of face-to-face attendance, 36.4% believing it to be related, and 11.4% unsure. The study also identified several factors contributing to student desertion, including economic, academic, social, and university life factors.

The positive impact of face-to-face attendance was reflected in the performance of students in the Leveling course at the Universidad de las Fuerzas Armadas ESPE Sede Latacunga. The study revealed that 612 students passed the course in the first period of 2023 in the classroom mode, which was 10% more than the previous period, which was virtual, where only 550 students passed the course.

In response to the question "Why do you consider that the attendance mode is beneficial?" both students and professors of the Leveling course agreed that the interaction between students and professors in the classroom was the most important benefit of face-to-face attendance, with 84.1% of affirmative answers. This finding aligns with Figure 1, which shows the importance of direct communication between teachers and students in achieving the objective of quality teaching and creating a warm learning environment. Another significant benefit of face-to-face attendance is that it facilitates the understanding of course content, as reported by 76.20% of respondents.

Overall, the results of this study provide evidence supporting the value of face-to-face attendance in higher education. By highlighting the benefits of this modality, institutions can make informed decisions when designing and implementing courses, particularly in the context of the ongoing COVID-19 pandemic, where hybrid learning models are becoming increasingly common.

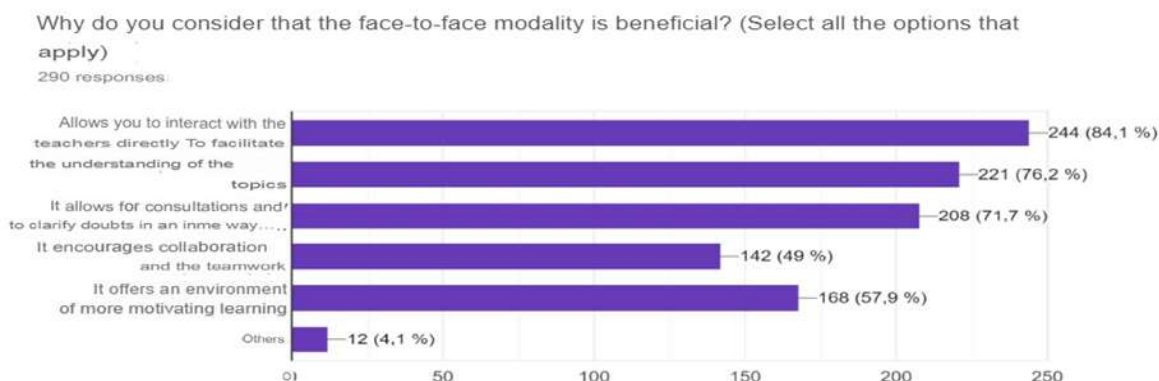


Figure 1. Student responses on the advantages of face-to-face attendance at university

The COVID-19 pandemic had a profound impact on higher education, presenting numerous challenges that need to be addressed as we transition back to face-to-face instruction. To gain insight into the perceived disadvantages of face-to-face attendance, the following question was posed to both students and teachers: "Do you believe that the face-to-face modality has disadvantages? (Select all the options that apply)." According to the research conducted, as illustrated in Figure 2, 68.3% of respondents cited the costs of transportation and accommodation as a significant disadvantage, particularly given the economic crisis and social inequality affecting the country's education sector (Ezcurra, 2022). This has resulted in high levels of absenteeism among students, leading to poor academic performance and ultimately contributing to high student dropout rates. Additionally, 54.7% of respondents noted the inflexibility of schedules and study times as another drawback of face-to-face attendance, with virtual learning offering greater adaptability in terms of study rhythms. These findings highlight the need to address issues related to accessibility and flexibility in the delivery of higher education to ensure that all students can succeed.

Do you think that the face-to-face modality has any disadvantages? (Select all the options that apply)

287 responses

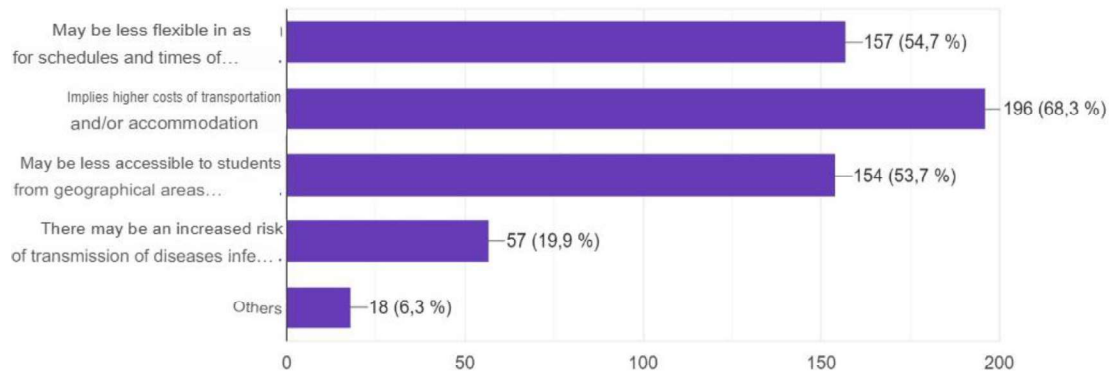


Figure 2. Student responses on the disadvantages of face-to-face attendance at university

The research on the benefits and disadvantages of face-to-face attendance was conducted on a significant sample of 250 students, which was obtained from a population of 1080 students enrolled in the leveling course at the University of the Armed Forces, as depicted in Figure 3. The survey included the question "What is your opinion about the face-to-face mode of study in higher education?" and revealed that 57.2% of the respondents believe that face-to-face attendance is very beneficial, while less than 1% believe that it is detrimental. This indicates that students faced several academic achievement problems during the time they received virtual classes. These findings demonstrate the significance of face-to-face attendance in higher education and the need to address the challenges of virtual learning to ensure quality education.

What is your opinion about the face-to-face modality of study in higher education?

250 responses

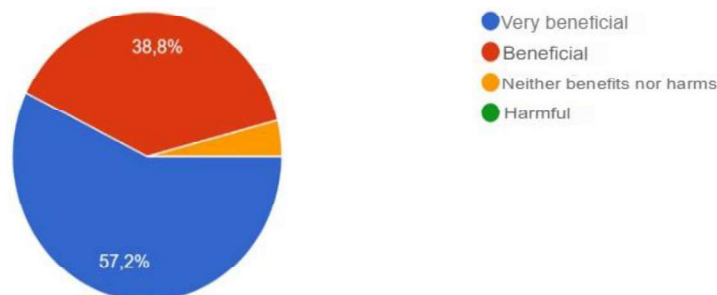


Figure 3. Student responses on face-to-face mode of study

Conclusion

Face-to-face education has traditionally been highly valued in higher education as it provides an opportunity for direct interaction between students and professors, which is especially important in hands-on learning disciplines such as engineering. Moreover, face-to-face education offers students the chance to create a network of valuable contacts, which can be crucial for their professional development. In addition, social interaction among students is vital, especially in a society increasingly disconnected by technology and social media. However, in recent years, distance education has been gaining popularity worldwide, thanks to the flexibility it offers to students who have work or family responsibilities, and the increasing importance of technology in education. The COVID-19 pandemic has brought distance education into the forefront, as many educational institutions have had to adapt to online education to ensure the safety of their students and faculty. Although distance education has many benefits, such as the flexibility to access education from anywhere, it also has some limitations, including the lack of direct interaction between students and their teachers, which may negatively impact the quality of education.

In the Ecuadorian context, higher education faces numerous challenges, such as lack of resources and limited access to adequate technology, which has led to the need to develop remedial programs to ensure that all students have the necessary skills and knowledge to succeed in higher education. Ecuador's remedial programs allow students to strengthen their foundational training and acquire the necessary skills for success in higher education. This modality also offers an opportunity for students to become familiar with the university environment and higher education in general.

In conclusion, while face-to-face education in higher education offers numerous advantages, distance education is gaining ground worldwide, including in Ecuador. The COVID-19 pandemic has accelerated this change, and educational institutions must continue to adapt to ensure that their students receive quality education, whether through face-to-face or distance education.

Recommendations

Given the merits of both face-to-face and distance education, adopting a hybrid learning approach could be highly beneficial. Educational institutions could design courses that combine the strengths of in-person interactions and online flexibility. This would allow students to engage in hands-on learning, build networks, and benefit from social interactions while also accommodating those who require remote access due to various commitments.

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