

Technology-Based Education: Challenges And Opportunities For Moroccan Doctoral Students During The COVID-19 Pandemic

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Abstract:

The Covid-19 pandemic has provided an opportunity to rethink assumptions about education in general and higher education in particular. Faced with the general crisis caused by the pandemic, particularly concerning so-called emergency distance education, professors and educators at all levels and in all contexts have felt the need to rethink their role and methods to support students' learning. This research aims to investigate the issue faced by the Moroccan tertiary level regarding learning during the COVID-19 pandemic crisis. The proposed methodology is based on an exploratory analysis through a survey of doctoral students from different universities to comprehend and overcome their experiences and problems related to the new technology-driven pedagogy during the pandemic.

Keywords: *Online learning and teaching, Higher education, Virtual experience, Technology, Pedagogy.*

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I. Introduction

During the COVID-19 pandemic, higher education faced significant challenges in implementing distance learning using technology and new online platforms, as this represents a difficulty for students and professors alike. Digital skills became crucial during this period to address the challenges of distance education. Offering students a virtual learning experience was particularly challenging within the Moroccan educational system due to a lack of digital literacy with online platforms and a lack of preparedness for such a sudden shift (Mouaziz et al., 2022). Some students have noticed that online learning has limited possibilities and are dissatisfied with the distance learning experience. Both students and teachers were not prepared to lead a normal learning process, which has led to the necessity to build a new educational policy and provide well-designed pedagogical performance (A.H. Alloui, 2022).

Despite the numerous challenges cited in several studies conducted during the COVID-19 pandemic, Moroccan universities made serious procedures to ensure the continuity of studies by implementing new online platforms for teaching students. A study indicated that applications such as Microsoft Teams, Hangouts, and Zoom were suitable for remote learning environments based on criteria such as communication, session recording, screen sharing, and remote control (Hibbi et al., 2021).

Digital skills could directly and indirectly impact students' academic involvement. Therefore, higher education institutions should prioritize students' digital competencies and offer them effective and easy-to-use online learning platforms to enhance their academic engagement, especially during the current COVID-19 crisis (Heidari et al., 2021).

The COVID-19 crisis has heavily impacted most sectors, with education being hit the hardest. professors, students, and government officials, all began to strive to minimize the impact of the crisis. Still, they did not deny some of the challenges and obstacles that constituted a challenge for teachers and students to succeed in the learning and teaching process by adopting distance learning methods.

During the pandemic, one of the biggest challenges was the shift from face-to-face to online learning, which required a lot of effort, time, and money to provide training for teachers, design systems, and improve the quality of administrative services (Hasanah et al., 2020). However, the daily use of technology did not help much, and students and teachers needed more experience to use technology-based materials for educational purposes. This gap manifested in difficulties connecting to online platforms and using applications like ZOOM or Google MEET suggested by educational institutions. Additionally, some students faced the problem of access to the internet, and there needed to be more discipline during online classes (Bekou, 2020). Next comes the doctoral research laboratories, where students take their first steps toward scientific research. It is vital to understand the

experience of doctoral students during the coronavirus crisis, the challenges they faced, and what happened after the pandemic ended. This study aims to investigate the impact of COVID-19 on the training and progress of doctoral students during the pandemic crisis.

II. Material And Methods

Research Design

This study employed a survey research approach to explore the experience of doctoral students during the COVID-19 pandemic. The online survey was designed to investigate the challenges encountered by doctoral students, and the role of digital tools provided by universities supported the continuation of their studies during the pandemic.

Sample

The participants of this study were selected from three Moroccan universities (Ibn Tofail University-Kenitra, Mohammed V University- Rabat, and Sultan Moulay Slimane University Beni Melal) belonging to the English studies department. Their responses were drawn from their prior experience with distance learning.

Data Collection

The study was conducted by collecting data through an online survey created in Google Forms and distributed to the target sample via social media platforms such as WhatsApp, Instagram, and Facebook. The study sample consisted of 73 students who had recently registered as doctoral candidates during the COVID-19 pandemic, and the data collection period spanned seven weeks, with one reminder notice sent out over this period.

Research Questions

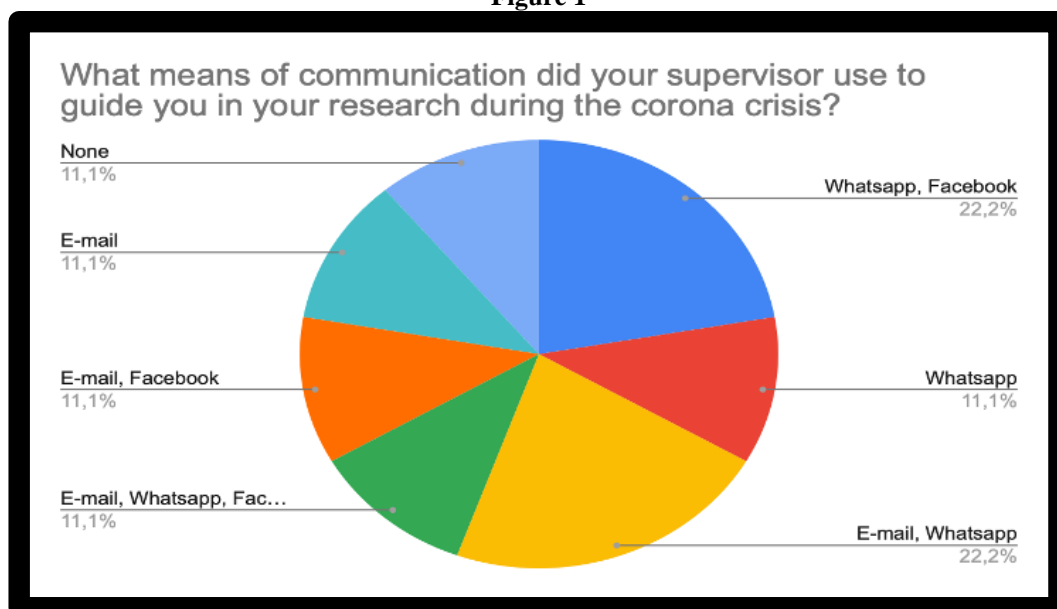
The primary objective of this research study is to investigate the experience of doctoral students during the COVID-19 period. The study seeks to understand the role played by digital tools during this crisis and to explore the opportunity that the new technology-driven pedagogy brings to higher education.

The following research questions were developed to address this objective:

- 1- What new teaching methods has the university implemented to train newly registered doctoral students during the COVID-19 pandemic?
- 2- How has the training of doctoral students been affected by online platforms and applications?
- 3- Has the university adopted virtual activities and new online platforms as educational support systems after the COVID-19 crisis?

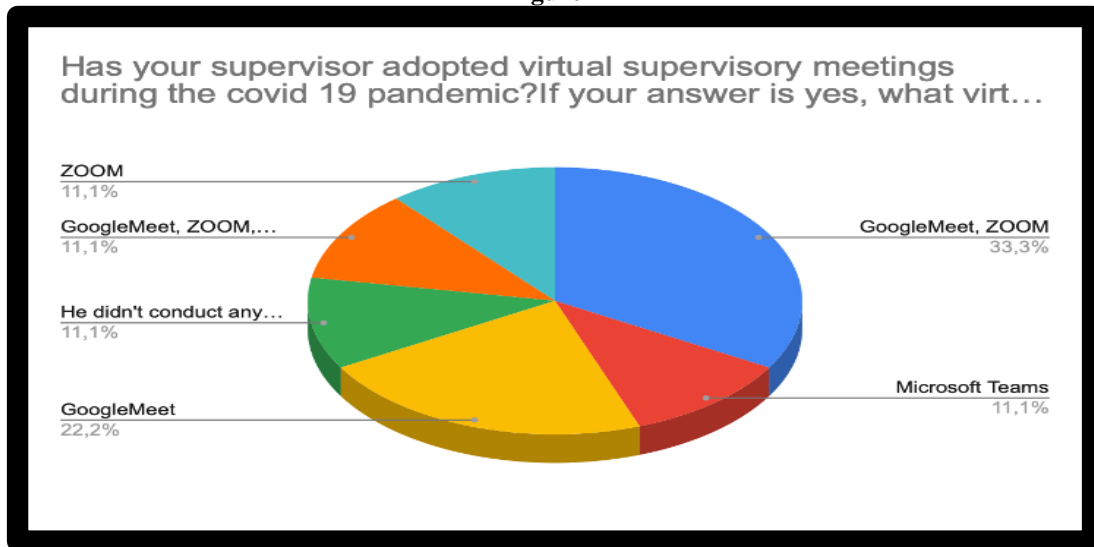
III. Result

Figure 1



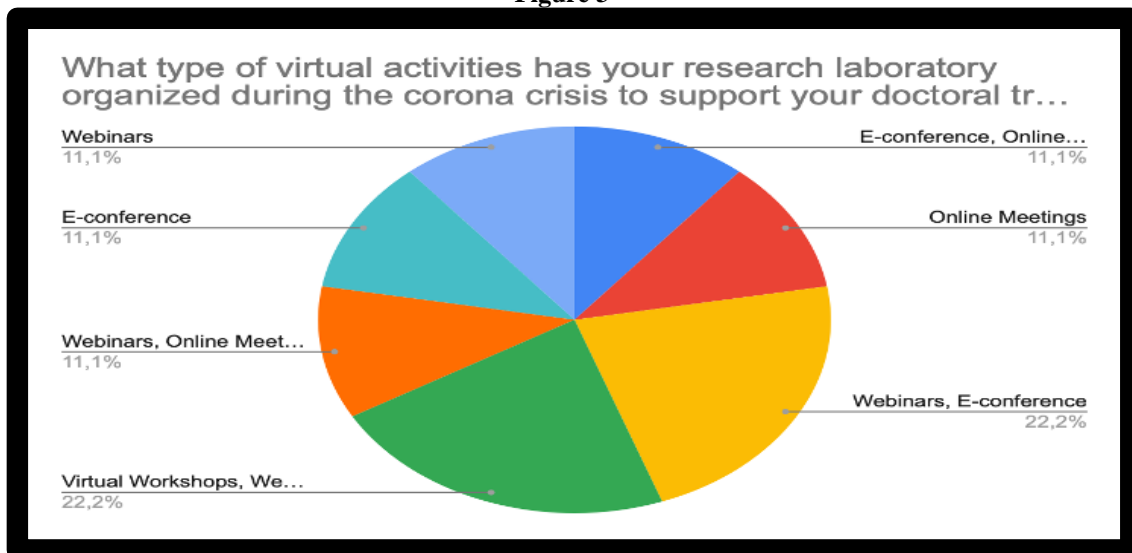
The first result highlights the role of social media as a means of communication between professors and their students during the pandemic. The result found that 22.2% of professors used WhatsApp and Facebook, while another 22.2% used email.

Figure 2



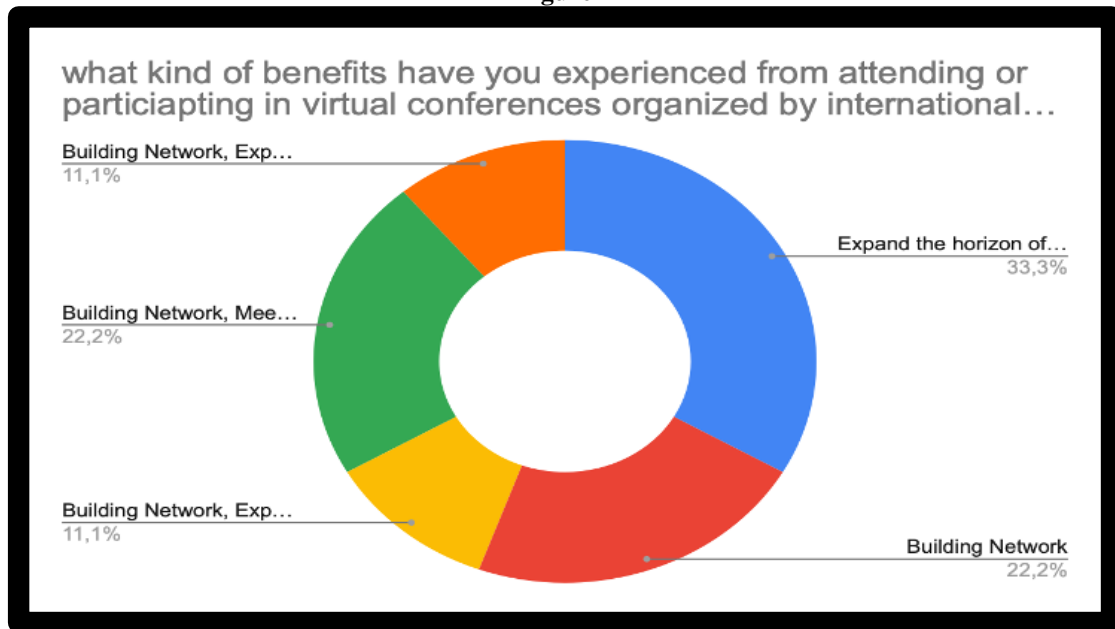
The second study focused on virtual supervisory meetings for doctoral students. The result revealed that ZOOM and Google Meet were the most commonly used software applications for setting up online meetings to guide and assess students' progress.

Figure 3



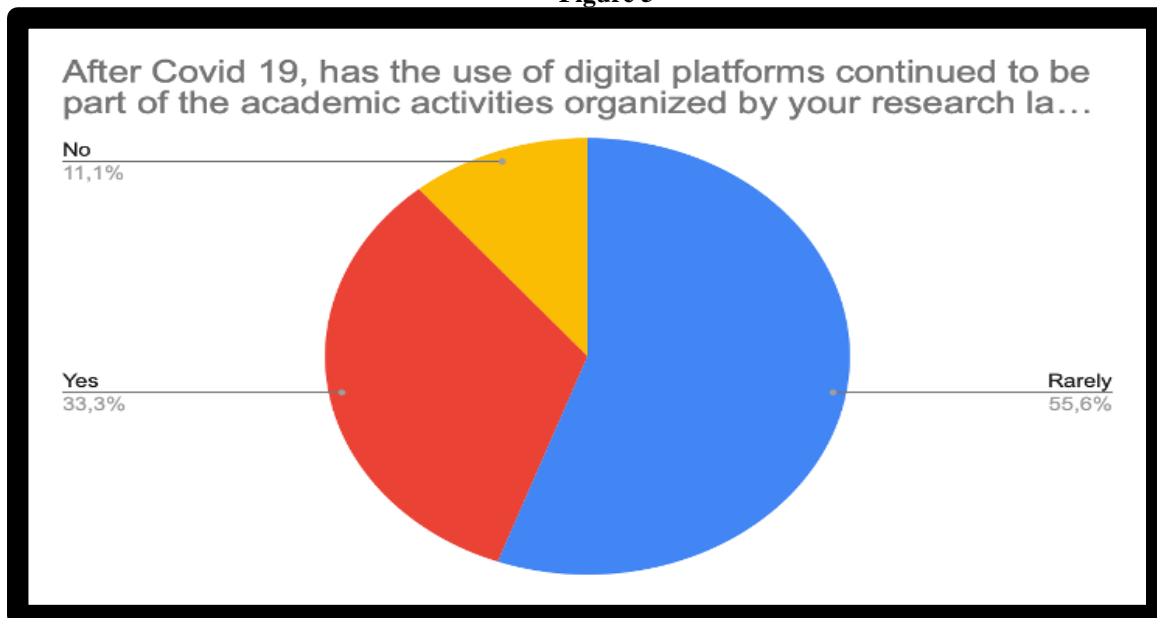
The graphs below illustrate the virtual academic activities conducted for doctoral students during the pandemic by their research laboratories. The results indicate that webinars, e-conferences, and virtual workshops were the most commonly used online applications by universities during this period.

Figure 4



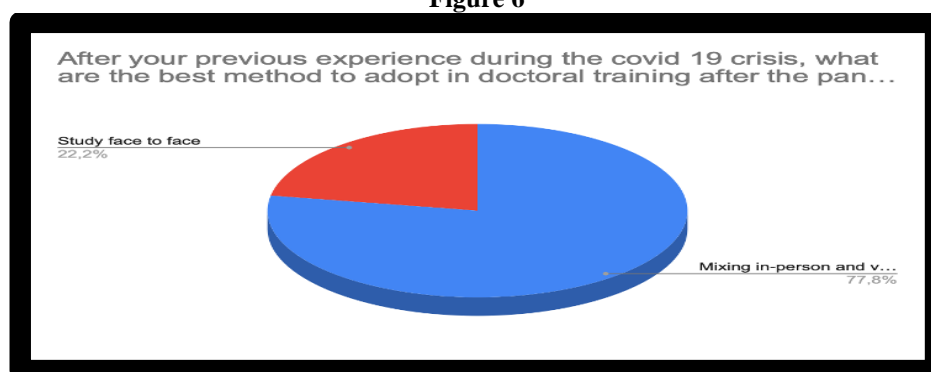
The second result reveals that virtual conferences allowed doctoral students to expand their knowledge and experience (33.3%), build networks, and meet international colleagues (22.2%).

Figure 5



After the pandemic ended, 55.6% of respondents stated their university rarely adopted or utilized online platforms, while 33.3% answered that their universities continued implementing online platforms in teaching.

Figure 6



After experiencing the COVID-19 crisis, 77.8% of participants preferred a hybrid learning model, and 22.2% preferred only in-person learning.

IV. Discussion

The findings indicated that incorporating online platforms for communication between supervising professors and new doctoral students was crucial as a means of communication. It facilitated ongoing communication, allowed for monitoring of student progress, and ensured that students had access to the necessary information to advance their research.

The study results revealed that the variety of academic activities available, whether organized by the students' university or other universities around the world, provided researchers with the opportunity to gain virtual experience and Establish a network of colleagues and professors in the same field, and also allows them to participate in international events without having to travel.

In conclusion, these results underscore the importance of integrating digital tools into the doctoral student journey. Higher education institutions should acknowledge the significance of digital proficiency and the role of digital platforms in enhancing doctoral studies. Online platforms will offer new researchers an efficient virtual experience, enabling them to participate in national and international opportunities without a scholarship to attend or participate in academic events.

V. Conclusion

The findings highlight the difficulties and advantages of pursuing doctoral studies in English during the pandemic. Doctoral students benefited from online platforms, which allowed them to participate in academic activities offered by national and international universities. These platforms served as valuable teaching tools, providing virtual access to webinars, e-conferences, and workshops organized by International universities. Despite the challenges posed by the pandemic, universities, research labs, and supervisors worked diligently to support doctoral students and ensure the continuation of their education. Looking ahead, the primary challenge is to utilize the lessons learned during the pandemic to integrate technology-based materials and digital learning into university systems, ultimately enhancing the quality of teaching and the value of doctoral studies.

Limitations:

The sampling procedure is a limitation of this study. Only participants from the English studies department were involved, therefore the results cannot be generalized to all Moroccan doctoral students.

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