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**The Impact of Covid-19 on Education: Case of Secondary Schools
in Tlemcen**

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Requirements for the Master's Degree in Language Studies*

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Statement of Originality

I hereby affirm that this submission is entirely my original work and does not contain any previously published or already written material. I additionally guarantee that the present work is original and free of any instances of plagiarism, and is the result of my own investigation unless otherwise stated.

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26/06/2023

Dedication

I dedicate my dissertation work to my family. A special feeling of gratitude to my loving parents, for their unconditional support for the past 18 years of education, especially my mother that guided me in every single step of my dissertation. I also dedicate this dissertation to my adorable grandmother, and my loving brothers, as well as my uncles and cousin who have supported me throughout the process.

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Abstract

This research aimed to understand the challenges faced by secondary schools in Tlemcen and identify to mitigate the adverse effects of the pandemic. The study followed an exploratory single holistic case study in which a structured questionnaire and a semi-structured interview were used to collect qualitative and quantitative data from both secondary students and teachers from five selected secondary schools in Tlemcen city. The findings revealed that the challenges resulting from the COVID-19 pandemic indicate some impacts on the students' academic performance; however it does not necessarily imply a general decrease in overall academic performance and attendance for the concerned students. In addition, the data provides evidence that supports that remote learning strategies were less effective in maintaining secondary schools' engagement and learning outcomes in Tlemcen schools compared to traditional in-person education during the pandemic.

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General Introduction



General Introduction

COVID-19 pandemic has had a significant impact on the education sector, including secondary schools in Tlemcen. Since the pandemic outbreak in 2019, the Algerian government has taken measures to contain the spread of the virus, including closing schools and implementing distance learning for secondary school students. The pandemic has brought about significant changes to the traditional education system, disrupting the learning process and posing several challenges for students, teachers, parents, and policymakers in Tlemcen. The sudden shift to online learning has brought about numerous technical and pedagogical challenges for secondary school students in Tlemcen. Students who lack access to devices or the internet face significant difficulties in keeping up with their studies. Additionally, online learning has required teachers to restructure their teaching strategies to suit the online environment, leading to pedagogical challenges. The pandemic has also highlighted pre-existing educational inequalities that have disadvantaged students from low-income families and marginalized communities in Tlemcen. The digital divide has become more pronounced, with students who lack access to technology being disproportionately affected. As a result, students who do not have access to devices, the internet, or quiet study spaces may struggle to keep up with their studies, leading to lost learning opportunities.

COVID-19 outbreak has disturbed the education domain, prompting the shutdown of educational institutions and the transition to remote learning in Tlemcen. This abrupt shift to virtual learning has resulted in several obstacles, such as technical and educational difficulties, inequitable access to technology, and economic fragility. These hindrances have affected the education of high school students, creating uncertainties about the efficiency of online learning and its potential enduring influence on their education. Furthermore, there is a necessity to scrutinize how the epidemic has impacted the psychological health and well-being of students and instructors, along with the socialization and extracurricular activities that are an essential part of secondary school education.. Consequently, this investigation aims to explore the aftermath of the COVID-19 pandemic on high school education in

Tlemcen, with an emphasis on the challenges faced by students, educators, guardians, and decision-makers.

As a result, the researcher aims to provide answers to the following inquiries:

- Q1: What is the impact of the COVID-19 pandemic on Tlemcen secondary school students' attendance and their academic performance?
- Q2: What is the effectiveness of remote learning strategies in maintaining secondary students' engagement and learning outcomes in Tlemcen schools during the pandemic?

The above-mentioned questions led to formulate two hypotheses:

- H1: The COVID-19 pandemic resulted in a decrease in secondary students' attendance and academic performance in Tlemcen schools.
- H2: Remote learning strategies were less effective in maintaining secondary engagement and learning outcomes during the pandemic for both the teachers and the students in Tlemcen schools compared to traditional in-person education.

To examine the impact of COVID-19 on secondary school education, the researcher conducted an exploratory study. The study involved gathering information from students and interviewing three teachers in Tlemcen. Questionnaires were administered to students, and interviews were conducted to gain insights into the challenges and adaptations experienced during the pandemic. The data collected through these research tools provided valuable perspectives on the effects of COVID-19 on secondary education in Tlemcen. By utilizing both quantitative and qualitative methods, the researcher aimed to obtain a comprehensive understanding of the situation and generate insights for future decision-making in the field.

To conduct this case study research on the impact of COVID-19 on secondary school education, the present work is intentionally divided into two interconnected chapters. The first chapter comprises three parts, each focusing on different aspects related to the topic. The first part explores the educational response to the COVID-19 pandemic, examining the measures and strategies implemented by educational institutions during this challenging time. The second part delves into the educational

implications of COVID-19, analyzing the broader effects and consequences on students, teachers, and the overall educational system. Lastly, the third part of the first chapter explores the experiences encountered by students, teachers, and parents during the pandemic, providing insights into the challenges and adjustments made in response to the crisis. The second chapter of this research delves into the research design and methodology. It presents a comprehensive overview of the procedures employed for data collection, the research tools utilized, and the analysis and interpretation of the gathered data. The primary objective of this chapter is to address the research inquiries by employing the findings to corroborate or refute any hypotheses. Additionally, it provides practical recommendations and suggestions to enhance the educational journey and outcomes for students crises such as the COVID-19 pandemic. Through the exploration of diverse methodologies and thorough data analysis, this chapter contributes to a profound comprehension of the hurdles encountered by students and educators, while offering valuable insights to enhance the educational experience within the pandemic context.

**CHAPTER ONE:
LITERATURE REVIEW**

1.1 Introduction

This chapter delves into the social impact of the COVID-19 pandemic on education in Algeria. It explores the consequences of school closures, the shift to distance learning, and the challenges faced by teachers and students. Additionally, it addresses the technological requirements and the influence of socio-economic backgrounds on educational outcomes. By examining these aspects, we aim to understand the complexities and implications of the pandemic on Algeria's educational landscape.

1.2 Part One: Educational Responses to Covid-19

The COVID-19 pandemic has profoundly affected education, with widespread school closures and the implementation of remote learning. This brief overview highlights the education system's response to the pandemic, including the adoption of alternative learning methods to ensure continued access to education for students during these challenging times.

1.2.1 Schools Closure

The COVID-19 pandemic has had a profound influence on education systems worldwide, with school closures being a significant measure taken. Secondary schools, in particular, have faced considerable challenges, as students have missed out on in-person learning, social activities, and interaction with their peers and teachers. The closure of schools has had a profound impact on students' academic, social, and emotional well-being. According to a study conducted by Nenko et al. (2020), students of all ages and socioeconomic backgrounds have reported similar experiences with distance learning. They have expressed feelings of isolation, a longing for their friends and teachers, and difficulties in staying motivated and engaged in their studies.

School closures have disproportionately affected students from disadvantaged backgrounds, exacerbating existing inequalities. These students may lack the necessary resources and support to access remote learning, further widening the educational gaps. Education systems have implemented various measures to address

these challenges and support student learning and engagement. Online learning platforms, digital resources, and communication tools have been utilized to provide remote learning opportunities. Schools have also offered mental health support and counseling services to help students cope with the stress and anxiety caused by the pandemic. However, the effectiveness of these measures in mitigating the adverse effects of school closures on student learning and well-being has been mixed. Some studies suggest that online learning has been successful in maintaining academic progress and student engagement. For instance, (Guo et al. 2021) found no significant impact of online learning on high school students' academic achievement during the pandemic.

On the other hand, other studies indicate that online learning has been less effective, particularly for students from disadvantaged backgrounds. Usher et al. (2020) discovered that students from low-income families faced challenges in accessing technology and the internet, making remote learning opportunities difficult to utilize. Furthermore, the closure of secondary schools has also taken a toll on students' mental health and well-being. Son et al. (2020) conducted a study that revealed high levels of anxiety and stress among students during the pandemic, with concerns about academic progress, college admissions, and social isolation being major stressors.

The impact of school closures on secondary school students extends beyond their academic and mental well-being. It has hindered their social and emotional development, as they have been unable to interact with peers and teachers in person. Additionally, the closure of schools has limited opportunities for students to participate in extracurricular activities and sports, which are crucial for their social and emotional growth.

1.2.2 Distance Learning

Distance learning refers to a method of education where students receive instruction and learn remotely, typically through online platforms, without being physically present in a traditional classroom setting.

1.2.2.1 Research on Distance Learning During the Pandemic

Scholarly investigations into the effectiveness of distance learning amid the COVID-19 pandemic have yielded varied outcomes. Some studies have reported that remote instruction can be as effective as conventional face-to-face teaching, while others have highlighted the detrimental impacts of this mode of learning on students' academic performance and overall well-being. One of the main criticisms of distance learning during the pandemic has been its potential inadequacy in meeting the needs of all students, especially those requiring additional support. This has led some researchers to argue that distance learning should only be used as a last resort, with in-person instruction being prioritized whenever possible (Mason et al., 2020).

Another issue raised is the necessity for better teacher training and support for distance learning. With the sudden shift to online learning, many teachers have had to quickly adapt without adequate training or preparation. This has raised concerns about the quality of instruction and teachers' ability to effectively engage with students in a remote setting. Moreover, some studies have indicated that distance learning has negatively affected student engagement and motivation. For instance, a study by Tella et al. (2020) found that the transition to online learning decreased student motivation, as they missed the social interaction and personal relationships they had with their teachers and peers. The study also discovered that students were more likely to experience distractions and interruptions at home, which could impact their ability to focus on learning. Similarly, a study by Bao et al. (2020) discovered that distance learning led to reduced student engagement and participation, as students felt less connected to their teachers and classmates. The study also revealed that students were less likely to ask questions or seek help when needed, which could affect their learning outcomes. In addition to these negative effects, distance learning has also exposed

disparities in access to technology and resources among students. Research conducted by Dorn et al. (2020) revealed a concerning disparity in access to technology and internet among students from low-income families and those who identify as Black, Hispanic, or Native American. These students faced significant obstacles in fully participating in distance learning due to a lack of necessary resources. Similarly, a separate study conducted by Islam et al. (2020) shed light on the challenges faced by students residing in rural areas. Internet connectivity issues and limited availability of essential learning materials such as textbooks further hindered their ability to engage effectively in remote education.

While there have been concerns and challenges associated with distance learning during the COVID-19 pandemic, several studies have also highlighted positive aspects of this mode of education. For example, a study by Means et al. (2020) found that distance learning can provide flexibility and personalized learning opportunities for students. It allows students to learn at their own pace, access a wide range of online resources, and engage in self-directed learning. Furthermore, distance learning has also been found to enhance digital literacy skills among both students and teachers. Research by Chung et al. (2020) revealed that the adoption of online platforms and tools during distance learning improved students' technological competencies and their ability to navigate digital resources effectively. Similarly, teachers who were initially unfamiliar with online teaching methods reported an improvement in their digital skills and pedagogical knowledge through their experiences with distance learning. Mason et al. (2020)

Distance learning has the potential to promote inclusivity by accommodating students with special needs or those who face physical or geographical barriers to attending traditional classrooms. A study by Alghamdi et al. (2021) demonstrated that students with disabilities experienced increased access to education through remote learning, as it allowed for personalized accommodations and reduced the stigma often associated with their conditions. It is important to note that while these positive aspects have been identified, the effectiveness of distance learning may vary depending on factors such as the quality of online instruction, technological infrastructure, and

individual student circumstances. Ongoing research and the implementation of best practices are crucial to optimize the benefits of distance learning and address its limitations in order to support student success in remote educational settings.

1.2.2.2 Impact of Distance Learning on Students

The impact of distance learning on students has been a topic of much debate and research since the pandemic began. Researchers have discovered both positive and negative effects associated with distance learning. Nenko et al. (2020) conducted a study indicating that online and in-person learning yielded similar experiences for students, suggesting that distance learning can be as effective as traditional classroom instruction. Additionally, Abidin et al. (2021) found that students reported feeling more confident and independent as learners during the pandemic, as they had to assume greater responsibility for their own learning. However, other studies have highlighted negative consequences of distance learning. Kuhfeld et al. (2020) found that the pandemic has exacerbated the achievement gap between students, with disadvantaged students being the most affected. Dorn et al. (2020) also discovered that low-income students and students of color, who often lack access to necessary technology and resources, have been disproportionately impacted by the pandemic. Moreover, the absence of social interaction and extracurricular activities has negatively affected students' mental health and overall well-being.

1.3 Part Two: Educational Implications of COVID-19

COVID-19 caused widespread school closures, leading to a shift to remote learning and exacerbating inequalities in access to education.

1.3.1 Teacher and Student Relationship

The COVID-19 pandemic has forced teachers to adjust to new methods of teaching, such as online and hybrid modes of instruction. These changes have had significant implications for teacher-student relationships. In traditional face-to-face instruction, teachers have the opportunity to interact with students in real-time, allowing for personal connections to develop. However, with online and hybrid

instruction, teachers are not physically present in the same space as their students, which can make it difficult to establish personal connections.

Research studies have shown that the relationship between teachers and students is critical in promoting student engagement and academic success (Pekrun et al., 2017). When students feel a connection to their teacher, they are more likely to engage in class and perform better academically. Therefore, it is essential for teachers to find ways to build connections with their students, even in the absence of physical proximity.

One way teachers can establish connections with their students is by using technology to create a virtual classroom. A virtual classroom is a platform that allows teachers and students to interact in real-time, similar to a traditional classroom setting. Teachers can use video conferencing tools such as Zoom or Microsoft Teams to deliver live lessons, and students can participate in real-time by asking questions and engaging in discussions. Research studies have shown that virtual classrooms can be effective in promoting student engagement and academic success (Garrison & Kanuka, 2004). Another way teachers can build connections with their students is by using social media. Social media platforms such as Twitter, Facebook, and Instagram can be used to communicate with students and provide updates on class activities. Teachers can also use social media to share resources and encourage student participation. However, it is essential to maintain professional boundaries when using social media to interact with students.

1.3.2 Implications for Teaching and Learning

The COVID-19 pandemic has forced educators to rethink traditional methods of teaching and learning. With the adoption of online and hybrid instruction, teachers need to find new ways to engage students and promote learning. Research studies have shown that online and hybrid instruction can be effective in promoting student engagement and academic success (Means et al., 2013). However, there are challenges associated with online and hybrid instruction, such as the need for students to have access to technology and reliable internet connectivity.

One of the implications of COVID-19 on teaching and learning is the need for educators to be flexible and adaptable. Teachers need to be able to adjust their instruction to meet the needs of their students, whether they are in a traditional classroom setting or learning online. This requires teachers to be proficient in using technology and to be able to create engaging and interactive online lessons. Another implication of COVID-19 on teaching and learning is the need for educators to be creative in delivering instruction. With online and hybrid instruction, teachers have the opportunity to use a variety of multimedia tools, such as videos, animations, and interactive simulations.

1.4 Socioeconomic Background

Refer to students' diverse economic and social circumstances that influence their access to resources and support for education.

1.4.1 Impact on Academic Performance

The COVID-19 outbreak prompted the shutdown of educational institutions, necessitating the implementation of digital and blended approaches to teaching. Although these methods have proved fruitful in stimulating student participation and scholastic accomplishments among some pupils, they have not been universally efficacious. According to research, students hailing from underprivileged socioeconomic backgrounds have been more susceptible to academic impediments caused by the pandemic (Chetty et al., 2020).

Numerous studies have consistently demonstrated the correlation between academic performance and educational outcomes. Research conducted by Crede and Kuncel (2008) found a strong relationship between academic performance and future educational attainment, including college enrollment and completion. Higher academic performance in secondary schools often leads to greater opportunities for post-secondary education, which in turn enhances career prospects and economic mobility for individuals (Kautz. et al., 2014).

The impact of academic performance extends beyond individual success and has broader implications for educational institutions. Schools with higher levels of academic achievement often experience a positive cycle of improved reputation, increased enrollment, and enhanced resources (Rumberger, 2015). Furthermore, high-performing schools tend to attract highly qualified teachers, creating a favorable environment for learning and fostering a culture of academic excellence (Darling-Hammond, 2017).

Conversely, poor academic performance can have detrimental effects on both individuals and educational systems. Students who struggle academically in secondary schools are more likely to experience negative outcomes, such as lower self-esteem, higher dropout rates, and limited career prospects (Jimerson, et al., 2017). These individuals face barriers in accessing higher education, reducing their opportunities for upward mobility and socio-economic advancement (Herrington & Studtmann, 2017).

1.4.2 Implications for Educational Policy

One of the primary implications for educational policy during the pandemic has been the rapid implementation of remote learning strategies. As schools shifted to online or hybrid models, policies were developed to support the delivery of remote education. This included guidelines for the use of digital platforms, the development of online curricula, and the provision of technical support to students, teachers, and families (Bates et al., 2020). Educational policymakers had to quickly adapt policies to address issues such as equitable access to devices and internet connectivity, digital literacy support, and the assessment of student learning in online environments (UNESCO, 2020)

Teacher support and professional development have emerged as key areas of focus in educational policy during the pandemic. Policymakers recognized the importance of equipping teachers with the necessary skills and resources to effectively engage in remote or hybrid instruction. Policies were implemented to provide training on online teaching methodologies, digital tools, and strategies for student engagement in virtual classrooms (Gunter et al., 2020). Additionally, policies which aimed at promoting teacher well-being and mental health have been emphasized, recognizing

the heightened stress and workload experienced by educators during this challenging period.

The pandemic has underscored the importance of building resilient education systems that can withstand future crises. Educational policies have shifted toward long-term planning and preparedness, focusing on building the infrastructure and capacity to effectively respond to disruptions. This includes strategies for blended learning, contingency plans for remote instruction, and the development of robust online learning platforms (Viner et al., 2020)

1.5 Technology Needs

Technology needs refer to the requirements and resources necessary to access and utilize digital tools and technologies effectively. In the context of education, technology needs encompass access to devices (such as computers or tablets), reliable internet connectivity, and appropriate software or applications that facilitate learning and engagement

1.5.1 Access to Technology

One of the primary implications of COVID-19 on technology needs in secondary schools is the need for access to technology. With the adoption of online and hybrid instruction, students need access to computers, laptops, and reliable internet connectivity to participate in classes. However, research studies have shown that not all students have equal access to technology (Basham et al., 2021).

Research conducted during the COVID-19 pandemic highlighted the disparities in technology access among secondary school students. A study by (Sonnier, et al., 2021) found that students from low-income households and marginalized communities faced greater challenges in accessing technology devices and reliable internet connections compared to their more affluent counterparts. This digital divide exacerbated existing educational inequalities, as students without adequate technology access were at a disadvantage in terms of accessing educational materials, participating in online classes, and completing assignments.

To address these disparities, educational institutions, governments, and organizations implemented various initiatives to improve technology access in secondary schools. Many schools distributed laptops, tablets, or Chrome books to students in need, either through loan programs or outright device donations (Thiagarajan et al., 2020). Additionally, efforts were made to provide internet connectivity to students who lacked reliable internet access at home. Some schools set up Wi-Fi hotspots in underserved areas or provided data plans and internet subsidies to students (Nagler et al., 2020).

In addition to hardware and connectivity, the availability of software and digital resources played a significant role in facilitating remote learning. Educational platforms, learning management systems, and online collaboration tools became essential for delivering instructional content, conducting assessments, and facilitating student-teacher interactions. Schools and educational technology companies offered free or discounted access to these platforms, ensuring that students had the necessary tools to engage in online learning (Braun et al., 2020).

Despite these efforts, challenges related to technology access persisted. Limited access to devices and internet connectivity remained an issue for many students, particularly those from disadvantaged backgrounds. The lack of digital literacy skills and technical support also hindered effective utilization of technology in education (Yadav et al., 2020). Furthermore, the transition to online learning highlighted the need for professional development and training for teachers to effectively integrate technology into their instructional practices (Hodges et al., 2020).

1.5.2 Teacher Training in Technology

Teacher training in technology during the pandemic has emerged as a critical area of focus in education. With the sudden shift to remote and hybrid learning models, teachers have had to rapidly adapt their instructional practices to effectively utilize digital tools and platforms. Policymakers and educational institutions have recognized the need to provide comprehensive training and support to teachers, ensuring they have the necessary skills and confidence to navigate online teaching

environments. Several key implications and strategies have emerged for teacher training in technology during the pandemic.

To address the immediate needs of teachers, many educational institutions and organizations quickly implemented professional development programs focused on technology integration. These programs aimed to enhance teachers' digital literacy skills, familiarize them with online learning platforms, and provide guidance on designing engaging online lessons (Hodges et al., 2020). Online workshops, webinars, and training modules became the norm, allowing teachers to access training resources remotely and at their own pace (Minea-Pic, 2020).

Collaborative learning communities and peer support networks have played a crucial role in teacher training during the pandemic. Educators have come together in virtual communities to share best practices, exchange ideas, and offer support to one another. Platforms such as social media groups, online forums, and video conferencing tools have facilitated collaboration among teachers, enabling them to learn from each other's experiences and discover innovative strategies for integrating technology into their teaching (Foulger et al., 2020).

In addition to immediate training needs, there has been a growing recognition of the importance of ongoing professional development for teachers. The pandemic has highlighted the need for teachers to continuously adapt their skills to evolving technological advancements and changing educational landscapes. Policymakers and educational institutions have prioritized the establishment of long-term professional development programs that provide ongoing support, resources, and training opportunities for teachers in technology integration (Mouza et al., 2021).

The effectiveness of teacher training in technology during the pandemic has been a subject of research and evaluation. Studies have explored the impact of various training approaches on teachers' confidence and competence in using technology for instruction. For example, research by (Dolighan et al., 2021) found that comprehensive and sustained professional development programs positively influenced teachers' attitudes towards technology and their instructional practices. Providing opportunities

for hands-on practice, modeling effective strategies, and offering ongoing support were identified as crucial components of successful training initiatives.

1.6 Teachers' Experiences

During the COVID-19 pandemic, teachers faced challenges adapting to remote and hybrid learning, including learning new technologies, redesigning lesson plans, and balancing personal and professional responsibilities. They demonstrated resilience and adaptability in ensuring continued education for their students.

1.6.1 Challenges Faced by Teachers

The sudden shift to remote learning has presented several challenges for teachers in secondary schools. According to a study by (Vital-López et al., 2022) teachers reported that the sudden shift to remote learning was stressful and resulted in increased workload and burnout. Teachers had to adapt quickly to new technologies and learn how to deliver lessons remotely, which added to their workload. Moreover, teachers had to revise their lesson plans to fit the remote learning format, which took time and effort.

The shift to remote learning also affected student-teacher interactions. In a traditional classroom setting, teachers can monitor student progress and provide immediate feedback. However, in a remote learning setting, teachers have to rely on technology to monitor student progress, which can be challenging. According to a study by Cooper et al. 2021, teachers reported that they experienced difficulties in monitoring student engagement during remote learning. Teachers also reported that they were unable to provide personalized attention to students who were struggling, which affected student performance.

The pandemic has also affected the mental health and well-being of teachers. Teachers have had to deal with the stress of remote learning, fear of contracting the virus, and uncertainty about the future of education. A study by (Truzoli et al, 2021) found that teachers reported increased levels of anxiety and depression during the

pandemic. The study also found that teachers who had a higher workload and less support from school administrators reported higher levels of anxiety and depression.

1.6.2 Impact on Teachers' Mental Health

The COVID-19 pandemic has had a profound impact on teachers' mental health, as they have faced unprecedented challenges and uncertainties in their professional lives. The sudden shift to remote or hybrid learning models, coupled with increased workloads, technological demands, and concerns for their own health and safety, has placed significant stress on teachers. The impact on teachers' mental health during the pandemic has been a growing concern, highlighting the need for support and resources to address their well-being.

Research studies have highlighted the negative impact of the pandemic on teachers' mental health. A study by (Santamaría et al, 2021) found that teachers experienced increased levels of stress, anxiety, and depression during the pandemic. Factors such as adapting to new instructional methods, managing technological issues, and the pressure to meet the needs of diverse learners in virtual environments contributed to heightened stress levels among teachers. The study also noted the importance of addressing mental health concerns and providing support to teachers to prevent long-term negative effects on their well-being.

The abrupt shift to remote teaching and the resulting isolation from colleagues and students have further exacerbated feelings of loneliness and burnout among teachers. The loss of in-person connections and the challenges of maintaining student engagement and motivation in virtual classrooms have taken a toll on teachers' emotional well-being (Rodriguez-Seijas et al., 2021). The lack of face-to-face interactions, which are often a source of support and camaraderie, has made it difficult for teachers to cope with the demands of their profession.

Policymakers and educational institutions have recognized the importance of prioritizing teachers' mental health and well-being during the pandemic. Efforts have been made to provide resources and support systems to help teachers cope with the

challenges they face. Some schools and districts have implemented counseling services, wellness programs, and virtual support groups for teachers (Hutchison et al, 2022). These initiatives aim to create safe spaces for teachers to express their concerns, access mental health resources, and engage in self-care practices. Furthermore, professional development programs that address teacher well-being and resilience have been implemented. These programs offer strategies and techniques for managing stress, promoting work-life balance, and building resilience in the face of adversity (Greenberg et al., 2021). Recognizing the interconnectedness of teacher well-being and student outcomes, educational policymakers have emphasized the importance of supporting teachers' mental health as a means to create a positive and supportive learning environment for students.

1.7 Parents' Experiences

This part will explore the challenges and opportunities faced by parents in supporting their children's education during this time, as well as the various coping strategies they have employed.

1.7.1 Challenges Faced by Parents

The COVID-19 pandemic has presented numerous challenges for parents, significantly impacting their daily lives and routines. The closure of schools, the shift to remote learning, and the need for social distancing measures have created a unique set of challenges that parents have had to navigate. These challenges have had implications on parents' work-life balance, mental health, childcare responsibilities, and access to support networks.

One of the primary challenges faced by parents during the pandemic has been the juggling of work and childcare responsibilities. With schools closed and children at home, many parents have had to balance their professional obligations with providing care and supervision for their children. This has placed significant pressure on parents, especially those who were not prepared for full-time childcare while also trying to fulfill work responsibilities remotely (Clark et al, 2021). The lack of access to formal childcare services or the need to rely on remote learning platforms has further

complicated the situation for parents, requiring them to take on additional roles as educators or facilitators of their children's education.

The closure of schools and the shift to remote learning have also presented challenges related to educational support. Many parents have found themselves in the position of supporting their children's learning at home, which can be particularly demanding for parents who are unfamiliar with the curriculum or lack the resources and materials typically provided by schools (Chetty et al., 2020). Parents have had to adapt to new roles as home educators, often grappling with limited access to educational resources, difficulties in providing personalized instruction, and the need to balance multiple children's learning needs simultaneously.

The pandemic has also strained parents' mental health and well-being. The increased stress, anxiety, and uncertainty caused by the crisis, coupled with the added responsibilities of managing work and childcare, have taken a toll on parents' mental health (Prime et al., 2020). Isolation from support networks and limited opportunities for self-care has further exacerbated the challenges faced by parents during this period. The long-term effects on parents' mental health and well-being, as well as the potential impact on parent-child relationships, highlight the need for targeted support and resources. Furthermore, the pandemic has disproportionately affected parents from disadvantaged backgrounds. Parents from low-income households or marginalized communities may face additional challenges related to limited access to resources, including technology and internet connectivity, which are essential for remote learning (Azhari et al, 2022). The digital divide has widened existing educational inequalities, placing a heavier burden on parents who may lack the necessary resources and support networks to adequately support their children's learning at home.

1.7.2 Coping Strategies Employed by Parents

Despite the challenges, parents have employed various coping strategies to support their children's education during the pandemic. One of the most common strategies has been the creation of structured routines and schedules to help children stay focused and engaged in their learning. A study conducted by (Aucejo, et al, 2020)

found that parents who created a structured learning environment at home were able to mitigate some of the negative effects of school closures on their children's academic progress. This involved creating a daily routine that included regular study periods, breaks, and physical activity, and setting clear expectations and goals for their children's learning. Another coping strategy employed by parents has been the use of online resources and educational tools to supplement their children's learning. Platforms like Khan Academy, Scholastic, and Coursera have seen a surge in usage during the pandemic, with parents and students using these resources to access high-quality educational content. These resources have been particularly useful for parents who lack access to traditional educational materials, such as textbooks and workbooks. Moreover, the use of educational apps and games has helped parents make learning fun and engaging for their children, helping them stay motivated and interested in their studies.

Many parents have sought support from their children's teachers and schools. A study conducted by (Kuhfeld, et al, 2020) found that parents who had regular communication with their children's teachers were better able to support their children's learning during the pandemic. Teachers have played a critical role in providing guidance and support to parents, and many schools have implemented programs to help parents navigate the challenges of remote learning. For example, some schools have provided training sessions for parents on how to use online learning platforms and tools effectively. Others have offered counseling services to support parents and students in managing stress and anxiety.

Several studies have highlighted the importance of parental involvement in supporting their children's education during the pandemic. For example, a study by (Leventhal et al, 2021) found that parental involvement was positively associated with students' academic achievement and well-being during remote learning. The study emphasized the need for schools to provide support to parents, particularly those from disadvantaged backgrounds, to help them navigate the challenges of remote learning effectively.

1.8 Students' Experiences

The COVID-19 pandemic has led to unprecedented disruptions in education systems worldwide, with secondary schools being one of the most affected sectors. These disruptions have impacted students in several ways, including their learning experiences, mental health, and the challenges they faced.

1.8.1 Learning Experience

With the closure of schools and the shift to remote learning, students had to adjust to new learning environments, which came with their challenges. Several studies have explored the challenges that students faced during remote learning. For instance, in a study conducted in the US, researchers found that students struggled with technical difficulties, difficulty focusing on online lessons, and inadequate access to learning materials (Sahu et al, 2020). The transition to remote learning also presented new challenges, including the lack of face-to-face interaction with teachers and peers. Students struggled to maintain their focus during online lessons, and many felt a lack of motivation to engage with the material. In addition, the shift to remote learning caused students to struggle with time management, as many found it challenging to structure their day effectively.

The lack of structure and routine that in-person classes provided was a significant challenge for many students. Students reported feeling disoriented and overwhelmed without the daily routines that come with attending school. This lack of structure also led to a lack of accountability, with students struggling to keep up with assignments and maintain their academic performance. Another significant challenge that students faced during remote learning was inadequate feedback from teachers. Many students reported feeling disconnected from their teachers, leading to a lack of guidance and support during the learning process. This lack of feedback also led to confusion and uncertainty about their academic progress, which negatively impacted their motivation and engagement with the material.

As a result, students' academic performance may have been negatively impacted. A study conducted in China found that students' academic performance declined during

the COVID-19 pandemic (Li et al, 2020). The study reported that students had difficulty concentrating on their studies due to the stress and anxiety caused by the pandemic.

1.8.2 Challenges Faced by Students

The Coronavirus pandemic is presenting huge difficulties for understudies, influencing their instructive experience and in general prosperity. The sudden conclusion of schools, the shift to remote learning, and the interruption of social association are seriously affecting understudies, everything being equal. These difficulties influence numerous parts of understudy life, including scholastic advancement, psychological wellness, social turn of events, and admittance to instructive assets. Perhaps of the greatest test understudies looked during the pandemic was the interruption of scholastic advancement. The unexpected shift to remote learning has made it hard to adjust to new showing strategies and utilize online stages (Kuhfeld et al., 2020). Understudies confronted difficulties to remain propelled, deal with their time really, and keep on track in a virtual learning climate. An absence of eye to eye communication with educators and friends likewise weakens understudies' capacity to clarify pressing issues, look for explanation, and take part in cooperative learning (Vuorenmaa et al, 2022). These disturbances to the growing experience have raised worries about the potential for diminished learning skill and scholarly execution holes in understudies.

The pandemic is additionally influencing the psychological well-being and prosperity of understudies. Emergency related confinement, social separating, and uneasiness add to expanded degrees of stress, tension, and wretchedness among understudies (Loades et al., 2020). Absence of social association and the difficulties of distance learning leave numerous understudies feeling desolate, estranged and lost. Moreover, the pandemic has exacerbated existing psychological well-being issues, making it challenging for understudies to get to essential emotionally supportive networks, for example, school instructors and emotional wellness administrations (Pfefferbaum et al, 2020). During this troublesome time, meeting the emotional well-being necessities of our understudies has turned into a key need.

During the pandemic, the computerized partition has likewise turned into a significant test for understudies. Not all understudies have equivalent admittance to innovation, a solid web association or a reasonable home learning climate (Handrail et al, 2020). Understudies from low-pay families and minimized networks can experience issues getting to online assets, going to virtual classes, and finishing tasks. This advanced separation compounds existing instructive disparities and raises worries about equivalent admittance to schooling and potential enlarging execution holes among understudies (Muralidharan et al., 2020).

Besides, the pandemic has upset social turn of events and understudy connections. School terminations and the shift to separate learning have restricted open doors for social communication, extracurricular exercises, and companion connections (Lee et al, 2020). Understudies might feel separated and need social encouraging groups of people, which can influence their close to home prosperity and interactive abilities improvement.

1.8.3 Students' Mental Health

The COVID-19 pandemic has had a profound impact on the mental health of students, with widespread implications for their well-being and overall functioning. The disruptions caused by the pandemic, such as school closures, social isolation, and uncertainties surrounding the crisis, have contributed to increased levels of stress, anxiety, depression, and other mental health issues among students of all ages.

The prolonged absence of in-person schooling and the shift to remote learning have created significant challenges for students, affecting their mental well-being. The abrupt disruption of daily routines, separation from friends and supportive environments, and the challenges of adapting to online platforms have led to feelings of loneliness, disconnection, and a loss of social support (Winfield et al, 2023). The lack of face-to-face interactions with peers and teachers has deprived students of important social connections, which are vital for their social-emotional development and overall mental health. The uncertainties surrounding the pandemic, including concerns about personal health, the health of loved ones, and the disruption of future

plans, have further contributed to heightened levels of anxiety and stress among students (Patterson et al, 2021). The constant exposure to news about the pandemic, including the number of cases and the impact on society, can exacerbate feelings of fear and uncertainty. Students may experience heightened levels of worry about their academic performance, college admissions, and their ability to cope with the challenges presented by the pandemic.

The transition to remote learning has presented unique challenges that can impact students' mental health. The shift to online platforms and the increased reliance on technology for learning have created new stressors, including difficulties in adjusting to new modes of instruction, technical challenges, and a lack of personal interaction with teachers and classmates (Chu et al., 2020). Students may experience feelings of isolation, frustration, and reduced motivation, leading to a decline in academic engagement and performance. Furthermore, the pandemic has highlighted existing mental health disparities among students. Students from vulnerable populations, including those from low-income households, marginalized communities, and those with pre-existing mental health conditions, are particularly susceptible to the adverse effects of the pandemic on their mental well-being (Lee, 2020). The pandemic has further exacerbated existing inequalities in access to mental health support and resources, making it even more challenging for these students to receive the necessary assistance.

It is crucial for educational institutions, policymakers, and communities to prioritize and support students' mental health during and beyond the pandemic. This includes implementing strategies to promote emotional well-being, providing access to mental health services and support systems, and incorporating social-emotional learning into the curriculum. Collaborative efforts between schools, families, and mental health professionals are essential to address the unique challenges faced by students and ensure their mental health needs are met.

1.9 Conclusion

The COVID-19 pandemic had a profound impact on teachers, students, and parents alike. Teachers faced unprecedented challenges as they swiftly adapted to remote teaching methods, tackled technological hurdles, and grappled with maintaining student engagement. Meanwhile, students experienced disruptive changes in their education, including limited access to resources, reduced social interactions, and heightened mental health concerns. Parents were thrust into multifaceted roles, juggling work responsibilities while also supporting their children's education at home. However, the pandemic magnified existing educational inequalities, particularly for students from disadvantaged socioeconomic backgrounds. These students faced greater obstacles in accessing reliable internet, appropriate devices, and conducive learning environments, exacerbating the disparities in educational outcomes. Consequently, the socioeconomic impact on schools was substantial. Students from low-income families encountered significant barriers to online learning, impeding their academic progress. As a result, the pandemic further widened the existing achievement gap, emphasizing the urgent need to address and rectify socioeconomic disparities in order to ensure equitable access to quality education, particularly during times of crisis.

**CHAPTER TWO: RESEARCH
METHODOLOGY AND
FINDINGS**

2.1 Introduction

This chapter illuminates the research design and offers a comprehensive overview of the case study and the methodology employed. It also addresses the sample population and the data gathered through the utilization of a questionnaire, alongside interviews, as research instruments, along with their subsequent analysis. Furthermore, the researcher presents an interpretation and discussion of the primary findings, in addition to providing a series of suggestions and recommendations for enhancing the subject under study.

2.2 Research Design and Methods

The present study follows an exploratory single holistic case study. The research design incorporated both quantitative and qualitative methods to gather comprehensive data and generate meaningful insights. To gather quantitative data, a structured questionnaire was administered to the students.

In addition to the aforementioned questionnaire a semi-structured interview was conducted with the teachers allowing for open discussions and the exploration of teachers' experiences, challenges, and strategies in response to the execution of the study programs during the pandemic. Moreover, the gathered data allowed providing in-depth insights into the impact of COVID-19 on instructional practices, mental health, and well-being among the teachers.

By employing a mixed-methods approach, the research design aimed to provide a comprehensive understanding of the impact of COVID-19 on secondary schools in Tlemcen. The integration of quantitative and qualitative data allowed for triangulation, enhancing the validity and reliability of the findings. The research design also facilitated the exploration of various perspectives, including those of students and teachers from different specialties, contributing to a more holistic understanding of the research topic.

The research design also considered ethical considerations, ensuring the privacy and confidentiality of participants' data. Informed consent procedures were followed,

and participants were made aware of the purpose and nature of the research before their involvement. Data protection protocols were implemented to safeguard the participants' information and maintain anonymity.

2.3 Sample Population and Setting

The sampling population used in this research involved a careful selection process to ensure a representative sample. To do so, non-probability purposive sampling technique was followed. The researcher visited five secondary schools in the region of Tlemcen, aiming to capture a diverse range of perspectives and experiences (Maliha Hamidou, Polyvalent, Yaghmourasen, El Mechouar). To ensure the above mentioned representativeness, the researcher carefully selected a sum of 120 male and female secondary students from the aforementioned schools. Eventually, the sample varies of age and gender according to the following table:

	Male	Female
Age	15-20	15-19

Table 2.1 Population distribution of the study by gender and age

Within each school, two teachers from each school from different specialties were chosen for interview. The selection of teachers from various disciplines, such as English, Maths, Arabic, Philosophy, Science, French, and Physics, provided a comprehensive understanding of the challenges and adaptations made by teachers across different subject areas. The interview with these teachers offered valuable insights into the instructional practices, difficulties faced, and strategies employed in response to the pandemic.

In addition to the teachers' interview, the researcher distributed questionnaire to the students in the selected schools. The questionnaire was designed to gather quantitative data on variables related to attendance, academic performance, and well-being. By including students from different grades and backgrounds, the researcher aimed to capture a wide range of perspectives and experiences among the sample. It is

important to acknowledge that the sample population in this study represents a specific geographical area and may not be generalizable to other regions or populations.

The selection of multiple schools, teachers, and students ensured diversity within the sample population, enhancing the representativeness of the findings. It allowed for the exploration of various educational contexts and factors that influence the impact of COVID-19 on secondary education in Tlemcen.

2.4 Data Collection

The two main research instruments for collecting and analyzing data are as followed: firstly, the questionnaire, as the name implies, refers to a range of organized into close-ended and open-ended questions. This quantitative and qualitative data methods is certainly used with a defined sample population, which consists of 120 informants to have accurate answers related to knowledge, attitudes and personal opinions. The second research instrument is an interview which is based on the qualitative data collection. In other terms, the latter is used to come up with suitable and reliable information related to the purpose of this research administered to 10 teachers.

2.4.1 Questionnaire

In this research, the primary instrument used was a questionnaire, it consisted of 11 questions and was administered to students from five different secondary schools. It aimed to elicit responses and opinions from the students regarding the changes and challenges they experienced during the pandemic. The questionnaire encompassed various question types to capture a comprehensive understanding of the subject. These different question formats allowed for a range of responses and perspectives to be collected. It was distributed to the students, and data collection occurred during a specific timeframe. The researcher emphasized the importance of confidentiality and anonymity to ensure honest and genuine responses from the participants.

2.4.2 Interview

This research focused on a subset of the participants included 10 teachers who were specifically selected for their expertise and experience in the field of education. These teachers played a crucial role in providing insights into the challenges and adaptations observed during the pandemic. The researcher conducted individual interview with each teacher, seeking their perspectives and experiences related to the topic.

The interviewer commenced by explaining the purpose of the study and assuring confidentiality and anonymity to encourage open and honest responses. The researcher aimed to gather comprehensive information within a limited time frame, ensuring that the interviews did not exceed one hour. The duration of each interview varied, ranging from 15 minutes to 24 minutes, depending on the depth of discussion and the willingness of the teachers to share their insights. During the interviews, the researcher posed three specific questions to the teachers. The questions were designed to explore the teachers' personal experiences during COVID-19 pandemic in secondary schools. They aimed to elicit information about the challenges encountered, innovative strategies implemented, and the overall experience of navigating education during the pandemic.

The first question focused on the challenges faced by teachers in adapting to remote learning and managing the shift from traditional classroom settings. This encompassed aspects such as technological barriers, student engagement, and the impact on teaching methods. The second question focused on how teachers managed to prioritize and maintain their mental health during the pandemic, considering the immense pressure they faced in their roles as teachers. The researcher aimed to understand the strategies and coping mechanisms employed by teachers to safeguard their well-being while navigating the challenges brought about by COVID-19. The third question aimed to understand the teachers' overall experience and reflections on the impact of COVID-19 on education. It encouraged them to share their thoughts on the long-term consequences of the pandemic, lessons learned, and recommendations for improving education in similar crisis situations. By conducting these interviews

with the 10 selected teachers, the researcher gained valuable insights into the firsthand experiences and perspectives of teachers on the impact of COVID-19 on secondary school education.

2.5 Data Analysis and Interpretation

Data analysis and interpretation are vital components of this study. By analyzing the questionnaire responses and interview data, the researcher will uncover trends, patterns, and variations in participants' perceptions of the impacts of COVID-19 on secondary education. The questionnaire data will be examined using statistical techniques, while the interview data will be analyzed for emerging insights. This analysis will provide a comprehensive understanding of the topic and might inform future interventions and policies.

2.5.1 Questionnaire

The questionnaire used in this study is designed to gather valuable insights on the impact of COVID-19 on education in secondary schools. The questionnaire comprises a variety of question types, including yes/no questions, closed-ended questions, multiple-choice questions, and open-ended questions. This diverse range of question formats allows for a comprehensive analysis of participants' experiences, perspectives, and opinions related to the research topic. By incorporating different question types, the researcher aims to capture both quantitative data that can be analyzed using statistical techniques and qualitative data that offers deeper insights through participants' own words.

Q1 have you faced any difficulties in attending classes due to the COVID-19 pandemic?

This question Focused on the challenges students encountered while attending face-to-face classes in schools during the pandemic. The analysis (figure 2.1) reveals that 49% of the students acknowledged facing difficulties in attending these classes. These difficulties could include concerns related to health and safety, such as fear of contracting the virus or spreading it to others, limited access to necessary protective

measures, or discomfort with the precautions and protocols implemented in schools. On the other hand, 51% of the students reported not finding it difficult to attend classes during this time. This suggests that a slightly larger group of students managed to attend face-to-face classes without significant challenges. They felt relatively safe, comfortable, and supported in their school environment or had fewer concerns about the pandemic's impact on their attendance. Overall, this analysis demonstrates that a significant portion of the student population faced difficulties in attending face-to-face classes during the COVID-19 pandemic. It highlights the importance of considering the varying experiences and concerns of students when planning and implementing strategies to ensure a safe and conducive learning environment during challenging times.

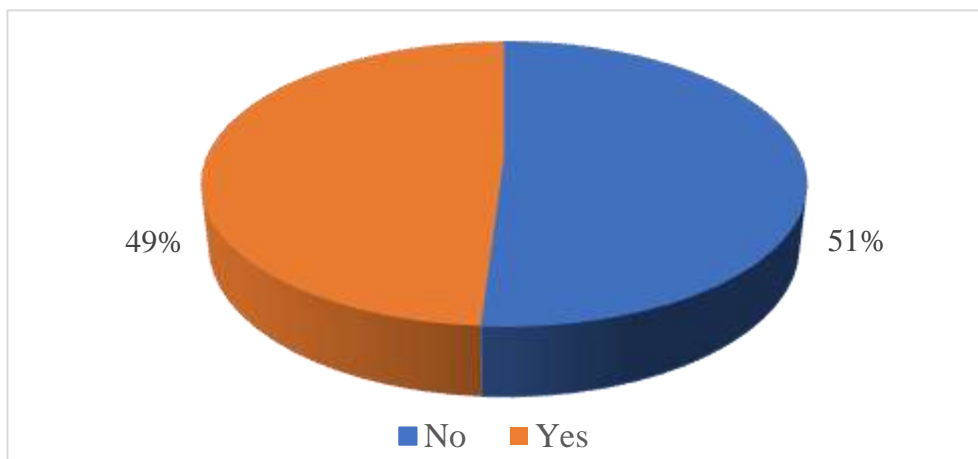


Figure 2.1 Difficulties in attending classes

Q2 how often did you participate in in-person classes during the pandemic?

When analyzing the question (figure 2.2) we find that the responses varied among the students. The majority of students, accounting for 70% of the respondents, indicated that they always participated in in-person classes during the pandemic. This suggests a high level of regular attendance and active engagement in face-to-face learning. These students demonstrated a consistent commitment to attending classes and taking part in the learning process, despite the challenges posed by the pandemic. Approximately 21% of the students reported participating in in-person classes sometimes. This implies that they had varying levels of attendance and engagement,

likely influenced by factors such as personal circumstances, schedule conflicts, or occasional remote learning requirements. A small percentage of students, around 2%, responded that they rarely and 2% never participated in in-person classes during the pandemic. This could be due to factors such as health concerns, personal circumstances, or alternative learning arrangements. Overall, it is important to consider that the responses may be influenced by a range of factors, including local regulations, individual circumstances, and personal preferences. The ability to consistently participate in in-person classes have been affected by external factors such as lockdown measures, health considerations, or individual comfort levels with attending in-person sessions.

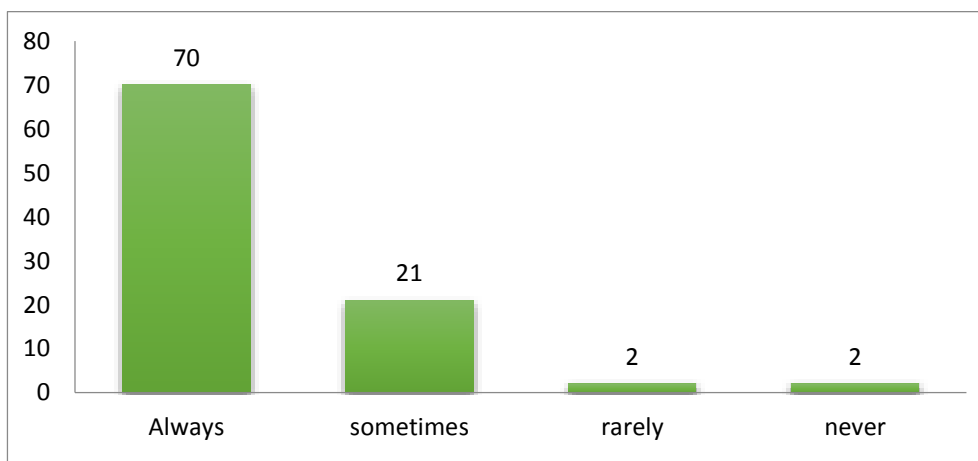


Figure 2.2 Participating in classes

Q3 have you noticed any changes in your academic performance since the pandemic started?

The question was posed to students to understand whether the COVID-19 pandemic has had an impact on their academic achievements. The analysis (figure 2.3) reveals that 51% of the students responded negatively indicating that they did not observe significant changes in their academic performance. Conversely, 49% of the students responded affirmatively, stating that they have noticed changes. For the students who responded "no," it suggests that the pandemic has not had a noticeable impact on their academic performance. These students successfully adapted to in-person learning formats, maintained their study routines, and effectively managed their coursework. They have utilized available resources, received support from teachers

and parents, and demonstrated resilience in navigating the challenges brought about by the pandemic. On the other hand, the students who responded "yes" have perceived changes in their academic performance since the pandemic began. These changes include various factors such as difficulties in adjusting to face-to-face learning, limited access to resources and support, disruptions in study habits and routines, and challenges in staying motivated and focused. The impact on their academic performance ranged from minor setbacks to more significant obstacles that require additional assistance to overcome.

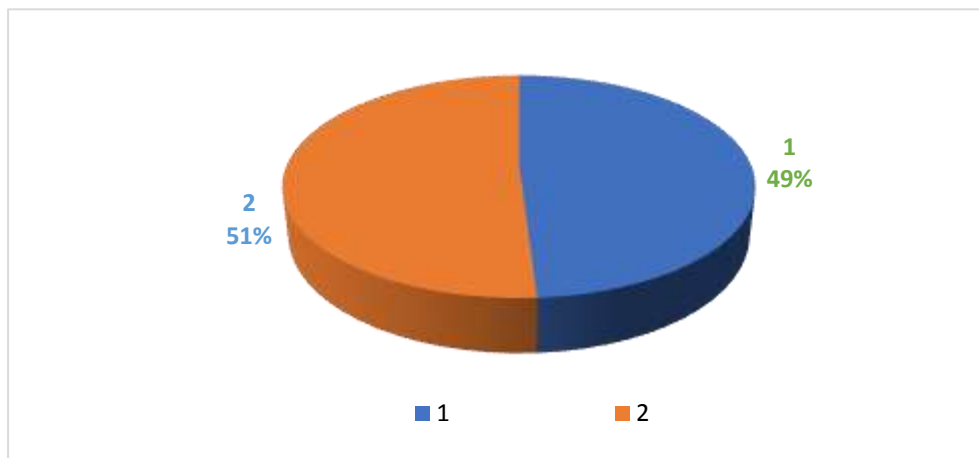


Figure 2.3 Changes in the students' academic performance

Q4 how has the pandemic impacted your mental health and ability to focus on your studies?

The question aimed to understand the effects of the pandemic on students' mental well-being and their ability to concentrate on their studies. The analysis of the responses (figure 2.4) indicates that the impact of the pandemic varied among the students, with a majority reporting a negative effect. According to the responses, 46% of the students reported that the pandemic had a positive impact on their mental health and ability to focus on their studies. These students have experienced personal growth, developed resilience, or found effective coping strategies during this challenging time. They have adapted well to the changes brought about by the pandemic and managed to maintain or even improve their mental well-being and academic performance. However, the majority of the students comprising 54% of the respondents stated that the pandemic had a negative impact on their mental health and ability to focus on their

studies. This suggests that they faced various challenges and difficulties that affected their well-being and academic performance. The disruptions caused by the pandemic, such as social isolation, increased stress and uncertainties have taken a toll on their mental health, making it challenging to concentrate on their studies effectively.

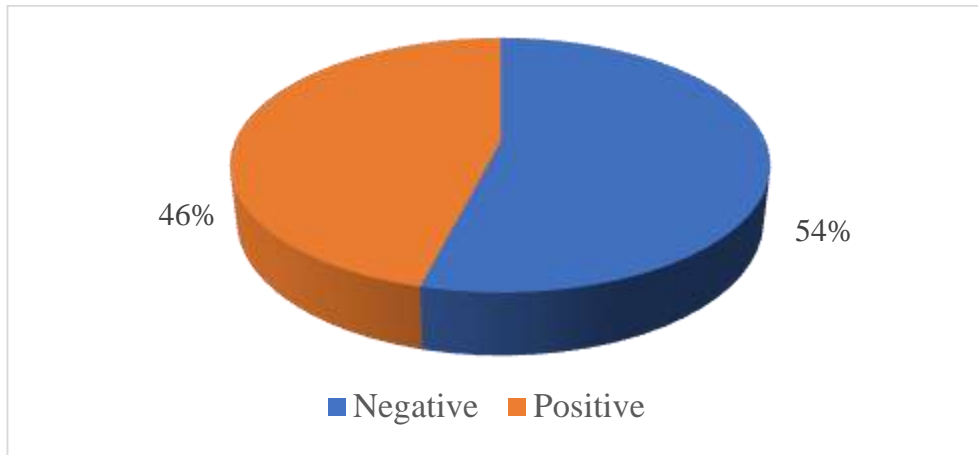


Figure 2.4 Impact on mental health

Q5 how has the limited social interaction with teachers and classmates affected your learning experience during the pandemic?

Based on the analysis of the question (figure 2.5) it is evident that 59% of the students responded positively, indicating that they found the limited social interaction to have a beneficial impact on their learning experience. On the other hand, 41% of the students responded negatively, suggesting that the lack of social interaction with teachers and classmates had a detrimental effect on their learning experience. The positive responses suggest that some students found the reduced social distractions and increased focus on individual learning to be advantageous. They have appreciated the opportunity to concentrate more on their studies without the usual social dynamics. These students have adapted well to self-directed learning and found alternative ways to seek support and engagement. Conversely, the negative responses indicate that a significant portion of students felt that the limited social interaction negatively affected their learning experience. They have missed the collaborative learning environment, direct teacher-student interactions, and the social connections with their peers. These students struggled with maintaining motivation, feeling isolated or encountering difficulties without immediate assistance or interaction. It is important to note that

these findings are based on the suggestions that students experienced during face-to-face classes and were physically present with their teachers and classmates during the pandemic. The impact of limited social interaction can vary depending on individual preferences, learning styles, and the specific educational context.

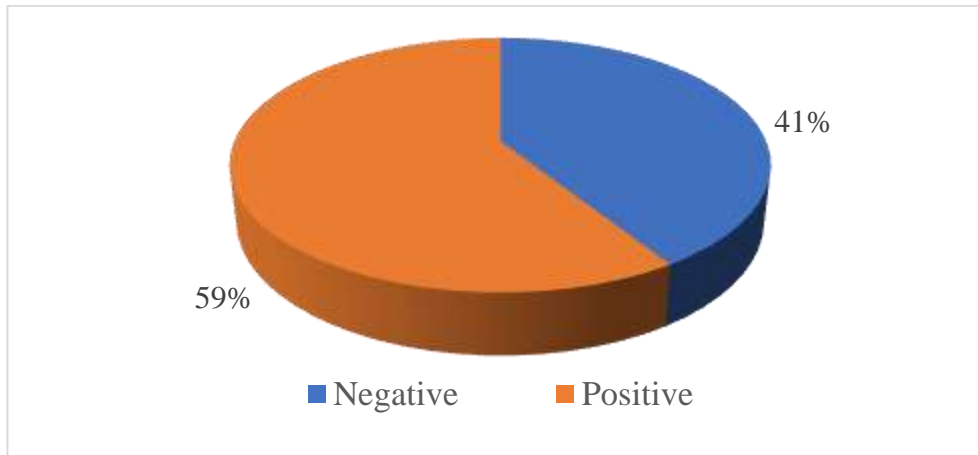


Figure 2.5 Social interactions with teachers and classmates

Q6 have you been able to stay engaged in your coursework during the pandemic?

The analysis reveals (figure 2.6) that 68% of the students responded negatively, indicating that they struggled to stay engaged in their coursework during this period. In contrast, 32% of the students responded affirmatively, suggesting that they were able to maintain a satisfactory level of engagement. For the students who responded "no," it implies that they faced challenges in staying engaged with their coursework during the pandemic despite not having studied online. These challenges have been influenced by various factors, such as the disruption caused by the pandemic, changes in their daily routine, limited access to resources or support, or difficulties in adjusting to the new learning environment. These students have experienced decreased motivation, reduced interaction with peers and teachers, or difficulty focusing on their studies. It is important to note that even though they did not study online, they still encountered challenges specific to the pandemic that impacted their engagement with coursework. On the other hand, the students who responded "yes" were able to maintain a level of engagement in their coursework during the pandemic, even without studying online. These students have demonstrated resilience, adaptability, and effective strategies to

overcome the challenges posed by the pandemic. They actively participated in class activities, sought additional support when needed, maintained regular communication with teachers and peers and utilized available resources effectively.

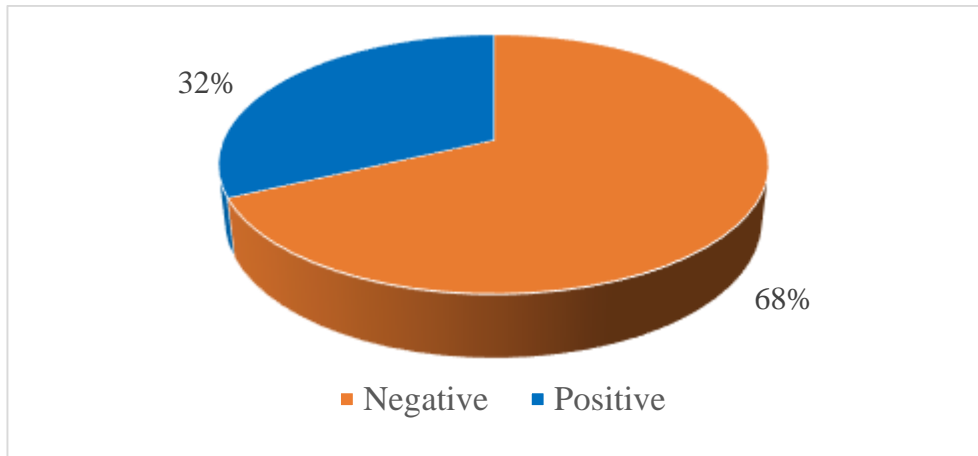


Figure 2.6 Students that stayed engaged in their course work

Q7 how has the support from teachers and parents helped you in your learning journey during the pandemic?

Analyzing the question (figure 2.7) we find that 79% of the students responded positively, indicating that they perceived the support from their teachers and parents as beneficial to their learning experience during in-person classes. On the other hand, 21% of the students responded negatively, suggesting a less favorable perception of the support received. The positive responses suggest that a majority of the students felt that the support provided by their teachers and parents played a crucial role in their learning journey during the pandemic. This support included guidance, encouragement, personalized attention, and effective communication channels. Students likely appreciated the assistance received in understanding the curriculum, clarifying doubts, and staying motivated in the face-to-face learning environment. The support from teachers and parents helped to create conducive learning atmosphere, despite the challenges posed by the pandemic. Conversely, the negative responses indicate that a portion of students did not feel adequately supported by their teachers and parents during in-person classes. They have perceived a lack of guidance, individual attention, or assistance in overcoming academic difficulties. These students experienced challenges in understanding the material, keeping up with the pace of the

class, or receiving the necessary support to thrive academically. It is important to note that individual experiences and perceptions may vary, and the level of support can differ among students based on various factors such as teacher-student relationships, parental involvement, and personal circumstances.

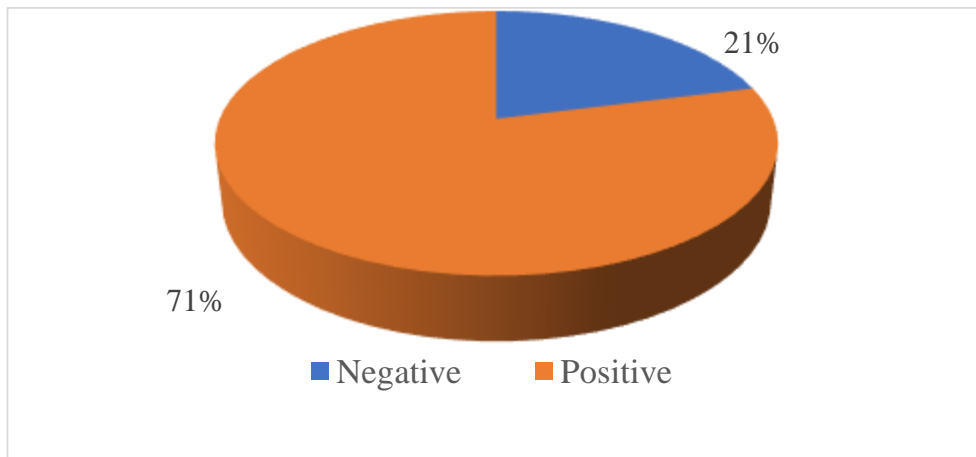


Figure 2.7 Teachers and parents helping students in their learning journey

Q8 Have you been able to maintain your grades during the pandemic?

The question was asked to students to assess their ability to maintain their academic performance throughout the pandemic. The analysis (figure 2.8) indicates that 68% of the students responded affirmatively, indicating that they were able to maintain their grades during this challenging period. In contrast, 32% of the students responded negatively, suggesting that they experienced difficulties in maintaining their grades. For the students who responded "yes," it suggests that they were able to adapt to the challenges posed by the pandemic and effectively manage their academic responsibilities. These students demonstrated resilience, effective study habits, time management skills, and utilized available resources and support to maintain their grades. They maintained regular attendance, actively participated in class activities, sought assistance when needed, and remained motivated and focused on their studies. On the other hand, the students who responded "no" faced challenges that affected their ability to maintain their grades during the pandemic. These challenges has been influenced by various factors, such as disruptions in their learning routine, limited access to resources, difficulties in adapting to new learning formats or environments, or personal circumstances related to the pandemic. These students experienced

decreased motivation reduced academic support, or challenges in managing their coursework effectively.

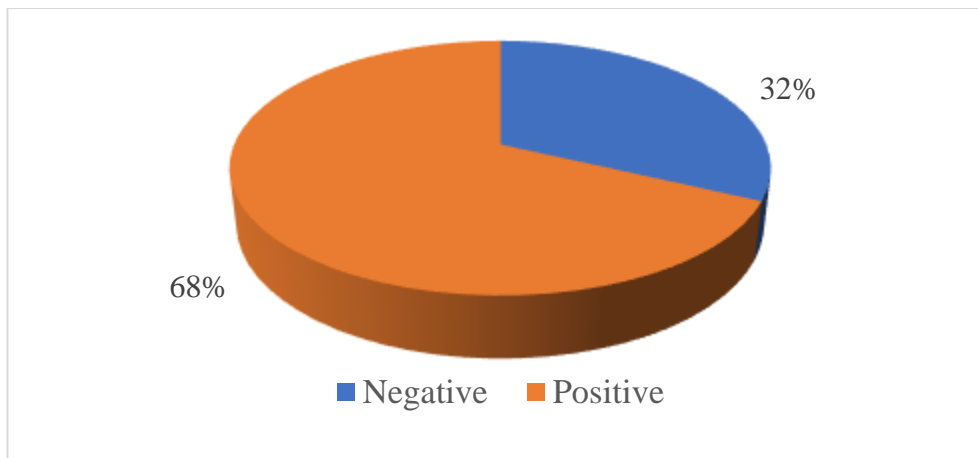


Figure 2.8 Maintaining grades

Q9 How motivated were you doing your courses during the pandemic?

Analyzing the question (figure 2.9) we find that 60% of the students responded positively, indicating that they felt motivated, while 40% of the students indicated a lack of motivation. The majority of students, accounting for 60% of the respondents, expressed motivation during their courses despite the challenges posed by the pandemic. These students likely maintained their focus, dedication, and enthusiasm towards their studies, even in the face of disruptions and uncertainties. They found ways to stay engaged, set goals, and remain committed to their academic pursuits, despite the unique circumstances. However, 40% of the students responded that they were not motivated during their courses. This suggests that a significant portion of students struggled with maintaining their motivation during the pandemic. Factors such as the impact of the pandemic on their overall well-being, lack of in-person interactions, or difficulties in adjusting to changes in the learning environment contributed to this decline in motivation. It is important to consider that individual experiences and circumstances vary, and motivation can be influenced by various factors. While a majority of students reported feeling motivated, it is crucial to provide support and resources to those who experienced a lack of motivation during this challenging period. School and educational institutions play a vital role in

implementing strategies and initiatives to help students regain and sustain their motivation in their academic pursuits.



Figure 2.9 Motivations of students doing their courses

Q10 what improvements or changes do you think could have been made to better support students during this challenging period?

Analyzing the question, "what improvements or changes do you think could have been made to better support students during this challenging period?" the students provided various suggestions and perspectives on how the education system could have better supported them during the COVID-19 pandemic. These are some suggestions students gave:

- **Enhanced communication and support**: Some students emphasized the need for more frequent and effective communication from schools and teachers, including regular updates, clear guidelines, and timely feedback on assignments.
- **Flexible learning options**: Students expressed a desire for greater flexibility in terms of learning methods and schedules to accommodate individual needs and circumstances. This could include options for blended learning or recorded lectures.
- **Improved access to resources**: Students highlighted the importance of readily accessible learning resources, such as online libraries, digital textbooks, and educational websites, to support their studies during periods of disruption.

- **Mental health support**: Many students emphasized the need for increased mental health support, including counseling services, resources, and awareness campaigns to address the emotional and psychological impact of the pandemic on their well-being.
- **Collaboration and engagement opportunities**: Some students suggested the implementation of virtual platforms or forums that promote interaction, collaboration, and peer-to-peer learning, recreating the sense of community and engagement that can be experienced in traditional classroom settings.
- **Teacher training and support**: Students indicated the importance of providing adequate training and support to teachers to ensure they are equipped with the necessary skills and resources to effectively deliver online or hybrid instruction.
- **Infrastructure and technology**: Students highlighted the need for improved internet connectivity, access to devices, and technical support to overcome barriers to online learning and ensure equitable opportunities for all students.

Q11 what kind of support and resources were helpful to enhance the educational experience during the pandemic?

Analyzing the question regarding the kind of support or resources that has been helpful to enhance the educational experience during the pandemic, it is anticipated that students expressed a range of suggestions. Some students highlighted the need for increased access to technology and reliable internet connection to facilitate online learning. They emphasized the importance of having digital resources, such as e-books and online databases, to support their studies. Students also mentioned the significance of mental health support services, including counseling or virtual wellness programs, to address the emotional challenges brought about by the pandemic. Other responses included requests for more interactive and engaging online learning platforms, additional opportunities for virtual collaboration and group work, and enhanced communication channels between teachers, students, and parents. These suggestions are based on common needs and preferences observed in similar situations, and the actual responses from students would provide more specific and varied insights into their desired support and resources.

2.5.2 Interview

In this study, a total of ten teachers were interviewed to gain insights into their experiences during the COVID-19 pandemic. The researcher visited five different schools and interviewed two teachers from each school, resulting in a diverse range of perspectives. Each teacher was asked three questions to explore their individual experiences and challenges faced during this unprecedented time.

The following interview results will be presented separately from those of the questionnaire and each interview question will be analyzed individually:

Q1 what are the difficulties encountered by teachers in adjusting to online instruction and transitioning from traditional face-to-face classroom environments?

The response provided by the interviewed teachers reveals a notable aspect of their experience during the COVID-19 pandemic. They mentioned that they did not teach online and solely conducted face-to-face classes, even when schools were closed due to the pandemic. This sheds light on the challenges faced by these teachers in adapting to remote learning and managing the shift from traditional classroom settings. When the pandemic emerged in March 2023 and schools were abruptly closed, teachers were faced with the daunting task of transitioning to online instruction. However, the teachers in question did not have prior experience or training in teaching online, which posed a significant hurdle. This lack of preparedness meant that they were unable to fully engage in remote education during the period of school closures.

The fact that the teachers continued with face-to-face teaching even after schools reopened in October 2020 further emphasizes their limited exposure to online instruction. This suggests that the necessary infrastructure and support for online teaching have not been in place or readily available during that time. Consequently, these teachers had to rely solely on face-to-face teaching methods, despite the ongoing challenges presented by the pandemic.

The experiences of these teachers highlight the critical need for comprehensive training and support to equip teachers with the necessary skills and resources for

effective online instruction. It also underscores the importance of establishing a robust infrastructure and educational policies that enable seamless transitions between different modes of teaching, be it face-to-face or remote learning. By addressing these challenges and providing adequate support, teachers can better navigate future disruptions and ensure continuous and effective education for their students.

Q2 how teachers managed to prioritize and maintain their mental health during the pandemic, considering the immense pressure they faced in their roles as teachers?

The question posed to the teachers about how they managed to prioritize and maintain their mental health during the pandemic provides valuable insights into their personal experiences and the challenges they encountered in their roles as teachers. The teachers' responses shed light on the immense pressure they faced and the toll it took on their mental well-being.

According to the teachers, they struggled with their mental health during the pandemic, with some even experiencing depression. This can be attributed to several factors. Firstly, the increased workload and teaching extra hours due to the division of each class into two groups created additional stress and demands on their time and energy. This increased workload likely resulted in feelings of overwhelm and exhaustion, which negatively impacted their mental health. Furthermore, the teachers had to navigate the risks of potential COVID-19 contamination as they continued to teach face-to-face rather than transitioning fully to online instruction. This added another layer of anxiety and stress to their already challenging roles. They not only had to ensure their own safety but also had the responsibility of ensuring that students maintained appropriate distancing and safety measures to minimize the risk of transmission.

The combination of these factors created a significant burden for the teachers, both physically and mentally. The pressures of adapting to new teaching methods, increased workloads, and the health risks involved took a toll on their mental well-being.

The teachers' responses highlight the importance of recognizing and addressing the mental health needs of teachers during times of crisis. It is crucial to provide support systems and resources that can help teachers manage their stress, maintain a healthy work-life balance, and prioritize their mental well-being. This may include access to counseling services, training on self-care techniques, and opportunities for open communication and collaboration among teachers to share their challenges and experiences. By acknowledging and addressing the mental health concerns of teachers, educational institutions can contribute to creating a supportive and nurturing environment that enables teachers to navigate challenging circumstances more effectively. Prioritizing the mental well-being of teachers ultimately benefits not only the teachers themselves but also the overall quality of education and the well-being of students.

Q3 were teachers able to successfully complete the curriculum or teaching program during the COVID-19 pandemic?

Based on the information provided, the majority of teachers faced challenges in successfully completing the curriculum or teaching program during the COVID-19 pandemic. The pressures and demands they encountered forced them to make difficult decisions, such as skipping certain lectures and focusing only on the necessary material. This was likely a result of the immense pressure they experienced, as they tried to navigate the unique circumstances of the pandemic while ensuring that their students received the essential knowledge and skills.

Teachers found themselves working extra hours to cover the necessary content, resulting in increased workloads and potential fatigue. The dedication and commitment demonstrated by teachers to ensure their students received an adequate education despite the challenging circumstances should be recognized. However, it is important to note that the inability to complete the entire curriculum had implications on students' learning outcomes and the overall academic progress. The disrupted educational experiences caused by the pandemic required additional support and interventions to address any gaps in knowledge and skills.

It is crucial for educational institutions and policymakers to acknowledge the challenges faced by teachers in completing the curriculum and provide appropriate support and resources. This may include professional development opportunities to enhance instructional strategies in remote or hybrid settings, flexible curriculum planning, and additional instructional time to make up for any missed content.

By recognizing the efforts made by teachers and addressing the systemic factors that hindered the completion of the curriculum, educational entities can work towards minimizing the negative impact of the pandemic on students' education and ensure a more comprehensive and inclusive learning experience in the future.

2.6 Discussion of the Results

This section will focus, in the light of the previously analyzed results, on discussing the findings in relation to the hypothesis posed which can contribute to gain deeper insights about the topic being studied.

2.6.1 Questionnaire

The pandemic has presented numerous challenges for students in various aspects of their education. Many students faced difficulties attending classes due to the pandemic, including health concerns, travel restrictions, and disruptions in the school schedule. Consequently, their daily routines were significantly affected, requiring them to adapt to new circumstances and balance their academic commitments with other responsibilities. As a result of the challenges faced during face-to-face learning in difficult times, there were noticeable changes in academic performance. These changes may have been influenced by the overall disruption caused by the pandemic.

The challenges experienced in face-to-face learning during the pandemic, including attendance issues and academic setbacks, highlight the impact of the crisis on traditional classroom settings. Factors such as the need for physical distancing, health and safety protocols, and limited access to resources and support contributed to these challenges.

Engagement in coursework proved to be a significant challenge for a substantial number of students during the pandemic. Factors such as the lack of in-person interaction, reduced motivation, distractions at home, and difficulties in adapting to face-to-face learning methods contributed to this issue. While the majority of students managed to maintain their grades during this challenging period, a notable proportion faced difficulties in achieving their desired academic outcomes. This highlights the importance of providing additional support and resources to help students overcome the obstacles imposed by the pandemic and ensure their educational success.

The limited physical interaction with teachers and classmates during the pandemic also influenced students' learning experiences. While some students highlighted positive aspects such as increased autonomy, self-directed learning, and reduced distractions, others emphasized the importance of face-to-face interaction for effective communication, socialization, and a sense of belonging in the academic environment. However, the support provided by teachers and parents was generally perceived positively by a majority of students. The assistance, guidance, and encouragement from these key stakeholders played a crucial role in helping students navigate the challenges of the pandemic and maintain their educational progress.

In conclusion, the COVID-19 pandemic significantly impacted various aspects of students' education. It disrupted traditional classroom settings, affected academic performance, and posed challenges in engagement and mental health. Nonetheless, the support from teachers and parents proved valuable in mitigating these challenges. It is essential for educational institutions to address the identified issues and provide ongoing support, adaptability, and resources to create a resilient and inclusive learning environment for students, both during and beyond the pandemic.

2.6.2 The interview

The interview results shed light on the challenges faced by teachers in adjusting to the changes brought about by the COVID-19 pandemic, despite not teaching online or using technology in their face-to-face instruction. The findings indicate that teachers still encountered difficulties in adapting their teaching methods and approaches. These

challenges stemmed from the need to modify instructional strategies to accommodate health and safety protocols, create engaging and interactive learning experiences within the limitations of in-person settings, and navigate the disruptions caused by the pandemic. The interviews underscored the importance of teachers being flexible, resilient, and able to quickly adapt to changing circumstances to ensure effective instruction in face-to-face classroom environments.

Regarding the second question, which explored how teachers managed to prioritize and maintain their mental health during the pandemic, the interviews revealed that teachers still faced immense pressure in their roles as teachers, despite not teaching online. They encountered increased workload, stress, and emotional exhaustion due to the uncertainties and disruptions caused by the pandemic. Teachers implemented various strategies to prioritize their mental well-being, such as establishing self-care routines, seeking support from colleagues, and practicing stress-management techniques. However, the blurred boundaries between work and personal life remained a challenge, as teachers struggled to find balance and separate their professional and personal responsibilities.

The third question focused on whether teachers were able to successfully complete the curriculum or teaching program during the COVID-19 pandemic, despite the fact that they did not teach online. The interviews revealed that teachers made significant efforts to cover the essential content within the face-to-face context. However, there were instances where the complete curriculum or teaching program could not be delivered as originally planned. Factors such as limited instructional time, disruptions caused by the pandemic, and the need for additional support and training affected the extent to which the curriculum was covered. Teachers demonstrated flexibility and adaptability by modifying their instructional strategies and prioritizing essential topics to meet the learning needs of their students.

In conclusion, the interview results emphasize that even in a face-to-face teaching context, teachers encountered challenges in adjusting to the demands of the pandemic. They faced difficulties in adapting their teaching methods, managing their mental well-being, and ensuring the completion of the curriculum. These findings

highlight the importance of providing support, resources, and professional development opportunities to teachers to enhance their resilience and effectiveness in navigating future disruptions. It also underscores the significance of recognizing and addressing the mental health and well-being of teachers, as they play a critical role in facilitating students' learning experiences.

2.7 Limitations of the Study

While the research provided valuable insights, it is important to acknowledge certain limitations. Firstly, the study focused on a specific geographic area and may not be representative of the entire population. Additionally, with interview conducted with only ten teachers from different specialties in each school. This limited sample size may restrict the generalizability of the findings. Furthermore, the study relied on self-reported data from student questionnaires, which may be subject to response bias or inaccuracies.

2.8 Recommendations

Based on the findings of the research several recommendations can be made to mitigate the challenges and enhance the educational experience:

- **Strengthen technology infrastructure**: Improve access to devices and internet connectivity for all students, especially those from disadvantaged backgrounds. This will ensure equitable access to online resources and facilitate effective remote learning, if necessary in future crises.
- **Professional development for teachers**: Provide comprehensive training and support for teachers to enhance their skills in delivering effective remote and hybrid instruction. This includes training in using online platforms, creating engaging virtual learning environments, and adopting innovative teaching strategies suitable for diverse learning needs.
- **Enhanced mental health support**: Establish robust mental health programs and resources for both students and teachers. Offer counseling services, promote well-being initiatives, and provide training to educators on recognizing and

addressing mental health issues. Prioritize creating a supportive and inclusive environment that fosters positive mental health.

- **Curriculum adaptation**: Consider revising the curriculum to address any learning gaps caused by the disruptions. Identify essential learning outcomes and prioritize them while allowing flexibility to accommodate the challenges faced by students and teachers. Ensure a balance between core subjects and socio-emotional learning to support holistic development..
- **Continuous assessment and feedback**: Implement regular and meaningful assessment practices that provide timely feedback to students, allowing them to track their progress and identify areas for improvement. Utilize a variety of assessment methods, including formative and summative assessments, to ensure a comprehensive understanding of students' learning outcomes.
- **Health and safety measures**: Establish and maintain clear health and safety protocols within school premises to ensure the well-being of students and staff. Regularly update guidelines based on the evolving situation and adhere to recommended practices to prevent the spread of infectious diseases.
- **Research and data collection**: Encourage ongoing research and data collection to monitor the impact of the pandemic on education and inform evidence-based decision-making. Collect feedback from students, teachers, and parents to understand their experiences and identify areas for improvement.
- **Collaboration with policymakers**: Engage policymakers in discussions about the challenges faced by secondary schools during the pandemic. Advocate for policies that address the digital divide, enhance educational infrastructure, and promote equal opportunities for all students.
- **Future preparedness**: Develop contingency plans and strategies to be better prepared for future crises. Incorporate blended learning models and flexible educational approaches that can seamlessly transition between in-person and remote learning, ensuring continuity of education.

By implementing these recommendations, secondary schools in Tlemcen can navigate the challenges brought by the pandemic, promote educational resilience, and

create a supportive and inclusive learning environment that prepares students for the future.

2.9 Conclusion

In conclusion, the research conducted on the impact of the COVID-19 pandemic on secondary school education in Tlemcen, Algeria, has shed light on the challenges and disruptions faced by students, teachers, and the overall education system. The findings highlight the difficulties experienced in face-to-face learning environments, the need for additional support and resources to overcome obstacles, and the importance of addressing systemic factors that hindered curriculum completion. The pandemic has emphasized the significance of student well-being, mental health, and creating inclusive learning environments. By recognizing the efforts made by teachers and by adapting to the changing educational landscape, Tlemcen can work towards minimizing the negative impact of the pandemic and ensuring a resilient and comprehensive education system that caters to the needs of its students.

General Conclusion

The research conducted on the impact of COVID-19 on secondary schools has provided valuable insights into the challenges and disruptions faced by the education system worldwide. The COVID-19 pandemic has had a profound effect on education, requiring educators and students to navigate through unprecedented circumstances and adapt to new learning environments. The shift to remote learning has presented numerous challenges, including pedagogical and logistical difficulties, inequitable access to technology, and disparities in students' home environments.

The research conducted here focused specifically on the impact of the pandemic on secondary schools in Tlemcen, Algeria. Through a combination of questionnaire surveys and interviews with teachers, valuable data was gathered to understand the specific challenges faced by the education system in Tlemcen. The research highlighted the vulnerabilities of traditional learning environments, the need for adaptations and innovative approaches to teaching, educational inequalities, and the well-being of students.

The findings revealed that traditional learning environments encountered obstacles such as attendance issues and academic setbacks. Teachers and students demonstrated resilience in maintaining grades but faced difficulties in engagement and motivation. The lack of access to technology and limited resources further amplified educational inequalities, particularly affecting students from low-income families and marginalized communities. Furthermore, the research shed light on the impact of the pandemic on students' well-being, with heightened levels of stress, anxiety, and difficulties in concentration reported. Prioritizing students' emotional and psychological well-being through comprehensive well-being programs and mental health support emerged as a crucial aspect of addressing the holistic needs of students.

Moving forward, the research highlights the importance of collaborative efforts among educational stakeholders, policymakers, and the community to mitigate the negative impact of the pandemic on secondary school education. Recognizing the efforts made by teachers, implementing strategies to overcome curriculum completion hindrances, and investing in infrastructure, technology, and resources are crucial for providing a comprehensive and inclusive learning experience.

The lessons learned from this research, including the challenges identified and the insights gained from the questionnaire surveys and interviews, provide a foundation for future educational practices. It emphasizes the need to embrace technology and digital tools to enhance learning experiences, bridge the digital divide, and prepare students for a rapidly evolving world. Integrating well-being programs and mental health support into the education system is essential for supporting the holistic development of students.

In conclusion, the research conducted here, focusing on the impact of COVID-19 on secondary schools in Tlemcen, Algeria, contributes to the broader understanding of the global impact of the pandemic on education. By recognizing the challenges faced and working collaboratively to address them, educational systems can build resilience, inclusivity, and adaptability to ensure the continued growth and development of students in a post-pandemic world.

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Appendices

Appendix A

Questionnaire

Q1: Have you faced any difficulties in attending classes due to the COVID-19 pandemic?

Yes

No

Q2: How often did you participate in in-person classes during the pandemic?

Often

Sometimes

Rarely

Q3: Have you noticed any changes in your academic performance since the pandemic started?

Positively

Negatively

Q4: How has the pandemic impacted your mental health and ability to focus on your studies?

Positively

Negatively

Q5: How has the limited social interaction with teachers and classmates affected your learning experience during the pandemic?

Positively

Negatively

Q6: Have you been able to stay engaged in your coursework during the pandemic?

Positively

Negatively

Q7: How has the support from teachers and parents helped you in your learning journey during the pandemic?

Positively

Negatively

Q8: Have you been able to maintain your grades during the pandemic?

Positive

Negative

Q9: How motivated were you doing your courses during the pandemic?

Motivated

Not motivated

Q10: What improvements or changes do you think could have been made to better support students during this challenging period?

Q11 what kind of support and resources which were helpful to enhance the educational experience during the pandemic?

Appendix B

Interview

Q1 what are the difficulties encountered by teachers in adjusting to online instruction and transitioning from traditional face-to-face classroom environments?

Q2 how teachers managed to prioritize and maintain their mental health during the pandemic, considering the immense pressure they faced in their roles as teachers?

Q3 were teachers able to successfully complete the curriculum or teaching program during the COVID-19 pandemic?

الملخص

يهدف هذا البحث إلى فهم التحديات التي تواجه المدارس الثانوية في تلمسان وتحديد الآثار السلبية للوباء. اتبعت الدراسة دراسة حالة استكشافية واحدة شاملة تم فيها استخدام استبيان منظم ومقابلة شبه منظمة لجمع التاريخ النوعي والكمي من كل من طلاب المرحلة الثانوية والمعلمين من خمس مدارس ثانوية مختارة في مدينة تلمسان. كشفت النتائج أن التحديات الناتجة عن جائحة COVID-19 تشير إلى بعض التأثيرات على الأداء الأكاديمي للطلاب؛ ومع ذلك، فإنه لا يعني بالضرورة انخفاض عام في الأداء الأكاديمي الكلي وحضور الطلاب المعنيين. بالإضافة إلى ذلك، تقدم البيانات أدلة تدعم أن استراتيجيات التعلم عن بعد كانت أقل فعالية في الحفاظ على مشاركة المدارس الثانوية ونتائج التعلم في مدارس تلمسان مقارنة بالتعليم الشخصي التقليدي أثناء الوباء.

الكلمات المفتاحية: كوفيد-19، التعليم الثانوي في تلمسان، التعلم عن بعد.

Summary

This research aimed to understand the challenges faced by secondary schools in Tlemcen and identify to mitigate the adverse effects of the pandemic. The study followed an exploratory single holistic case study in which a structured questionnaire and a semi-structured interview were used to collect qualitative and quantitative data from both secondary students and teachers from five selected secondary schools in Tlemcen city. The findings revealed that the challenges resulting from the COVID-19 pandemic indicate some impacts on the students' academic performance; however it does not necessarily imply a general decrease in overall academic performance and attendance for the concerned students. In addition, the data provides evidence that supports that remote learning strategies were less effective in maintaining secondary schools' engagement and learning outcomes in Tlemcen schools compared to traditional in-person education during the pandemic.

Key words: COVID-19, secondary education in Tlemcen, remote learning.

Résumé

Ce travail de recherche visait à comprendre les défis auxquels sont confrontés les lycées de Tlemcen et à identifier pour atténuer les effets néfastes de la pandémie. L'étude a suivi une étude de cas holistique unique exploratoire dans laquelle un questionnaire structuré et un entretien semi-structuré ont été utilisés pour collecter des données qualitatives et quantitatives auprès des élèves du secondaire et des enseignants de cinq écoles secondaires sélectionnées de la ville de Tlemcen. Les résultats ont révélé que les défis résultant de la pandémie de COVID-19 indiquent certains impacts sur le rendement scolaire des étudiants ; cependant, cela n'implique pas nécessairement une diminution générale des performances académiques globales et de l'assiduité pour les étudiants concernés. En outre, les données fournissent des preuves qui soutiennent que les stratégies d'apprentissage à distance ont été moins efficaces pour maintenir l'engagement et les résultats d'apprentissage des écoles secondaires dans les écoles de Tlemcen par rapport à l'enseignement traditionnel en personne pendant la pandémie.

Mots clés : COVID-19, l'enseignement secondaire à Tlemcen, l'apprentissage à distance.