

Visually impaired students in both face-to-face and e-learning

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Abstract: Visual impairments present significant obstacles for students in their everyday lives, particularly in academic settings. The ongoing Covid-19 pandemic has only heightened the challenges faced by individuals with disabilities. However, instructors have been using a variety of teaching methods, both in-person and online, to better support visually impaired students. These approaches have yielded positive impacts on students' social, physiological, and educational development. Nevertheless, there are also drawbacks associated with both methods, which this study seeks to explore and overcome. The researchers conducted this research during the second semester of the 2022/2023 academic year in Hebron University. In order to achieve the aims of the study, the researchers utilized qualitative techniques such as WhatsApp interviews to gather comprehensive data. They collected the data from six participants who voluntarily accepted to participate in the interviews. The study found that students enjoyed several advantages of online learning, such as easy access to course materials and effective communication with their instructors. However, they also encountered several challenges such as lack of support from the government, inadequate training for teachers, and insufficient knowledge about their rights as online learners. The researchers attempted to address the underlying causes of these issues. Based on the findings, the researchers proposed potential solutions to effectively address these issues and enhance the learning experience for visually impaired students.

Keywords: E-Learning, Face to face learning, Visually impaired students, Vulnerable students, Obstacles.

1. Introduction

Once visually impaired students complete their education at private schools, they often attend regular schools where they can interact with other students. This helps them develop social skills and learn how to communicate effectively. However, this type of education has drawbacks, particularly in developing countries where schools, teachers, and students may not be fully equipped to accommodate their needs.

In 2020, the outbreak of COVID-19 led to the closure of schools and universities worldwide in order to prevent the spread of the virus and ensure the safety of students. However, learning did not stop as various apps and platforms such as Meet, Zoom, and Google Classroom were utilized to facilitate online teaching. Nonetheless, visually impaired students in developing countries encountered difficulties in adapting to this new method due to the sudden shift from traditional face-to-face learning and lack of proper training.

1.1. Statement of Problem

One point of contention was whether visually impaired students should remain in private schools permanently or for a limited time before transitioning to regular schools where they can interact with others, including teachers and students. Some argue that immersion in mainstream education may pose challenges, especially in developing countries. Additionally, the COVID-19 pandemic prompted a rapid transition to e-learning, which brought both advantages and disadvantages. To address these issues,

research was conducted to identify the challenges of both face-to-face and online learning, with a focus on improving the benefits of e-learning for visually impaired students and finding solutions to the challenges they face during the pandemic.

1.2. Objectives

1. To explore the advantages of face-to-face learning.
2. To explore the challenges that visually impaired students face in face-to-face learning.
3. To explore the advantages that the visually impaired students earned from e-learning during Covid 19.
4. To investigate the disadvantages that the visually impaired students faced from e-learning during Covid19.
5. To find some solutions to the challenges that the blind face in both face to face and e-learning.

1.3. Questions of the Study

1. What are the advantages of face-to-face learning for visually impaired students?
2. What are the disadvantages of face-to-face learning for vulnerable students?
3. What are the advantages of using e-learning in teaching visually impaired students during Covid19?
4. What are the disadvantages of using e-learning in teaching visually impaired students during Covid19?
5. What are the solutions for the problems that visually impaired students were facing both face to face and using e-learning?

1.4. Significance of the Study

Teaching and learning for the visually impaired is an important and sensitive topic worldwide. This study aims to contribute to families, schools, and universities by exploring the challenges faced by the blind in face-to-face and e-learning during the Covid-19 pandemic. The results of this study are expected to have significant implications for teaching, treating, and understanding the blind. The researchers hope to arrive at measurable conclusions that can be applied globally, including in developing countries.

2. Literature Review

2.1. Nature of Blindness

Blindness is defined as the state of being unable to see in both eyes, according to the [Medical Encyclopedia \[1\]](#). [Davis \[2\]](#) adds that it can be temporary or permanent. [Lee and Mesfin \[3\]](#) identify two main types of blindness: partial blindness and total blindness. Total blindness refers to individuals who cannot perceive light, while partial blindness refers to those whose vision cannot be improved by lenses, surgery, or assistive technology. Blindness extends beyond medical definitions. [Larson \[4\]](#) explains that legal blindness refers to individuals whose visual impairment prevents them from obtaining their rights, while social blindness describes individuals unable to interact with others because of their disability. Economical blindness refers to individuals who cannot find work due to their visual impairment.

2.2. What is Face to Face Learning

Face-to-face learning, as defined by [Tamm \[5\]](#) is an instructional method where course content and learning material are taught in-person to a group of students. This type of learning allows for greater access to information, improved teacher-student and student-student communication and interaction, and the opportunity to meet individuals from diverse backgrounds. Additionally, face-to-face learning can enhance concentration by reducing distractions [\[6\]](#).

2.3. Advantages of Face-to-Face Learning

There are several advantages to face-to-face learning. It can help individuals with visual impairments overcome negative stereotypes and misconceptions [7]. It also provides them with opportunities to interact with other children, fostering self-confidence and a sense of belonging to their community [8].

2.4. Challenges that Visually Impaired Students Face in Face-to-Face Learning

Visually impaired students encounter numerous challenges when accessing public services like elevators and ramps, particularly in developing countries with economic challenges. Moreover, partially visually impaired students face difficulties in the classroom due to their eyes' sensitivity to light. Teachers cannot provide them with low light as other students need it to stay awake, which affects their ability to see and write from the board, making them reliant on others [9]. In some cases, teachers lack adequate knowledge and experience in dealing with visually impaired students, which can result in negative outcomes, especially for younger students whose personalities may be affected [5].

Furthermore, according to Council of Schools for the Blind (COSB) [10] visually impaired students often do not receive full understanding from their classmates, who may not know how to support them in various activities such as taking exams, moving around, or being included in group work. Teachers may also lack an understanding of the issue of equality, assuming that visually impaired students are no different from their peers. However, visually impaired students require more support due to their unique needs, which can differ from their classmates' needs.

Another significant challenge faced by visually impaired students is reading, as they may have lower reading abilities than their peers. Partially visually impaired students often do not use programs that can read for them, and their sight percentage is low [11]. Additionally, some teachers may treat visually impaired students as equals, leading to misunderstandings due to differences in their needs, psychology, and background [9].

Transportation is another major issue for visually impaired students, particularly in developing countries where their parents may not have cars. This can make it difficult for visually impaired students to move around their community or travel to their learning institution [12]. Additionally, roads may not be arranged appropriately for visually impaired students, increasing their risk of accidents [13].

Visually impaired students may also struggle with diagrams and images in books or those used by teachers to explain concepts. Not all teachers know braille, leading to misunderstandings and dependency on others, which can reduce their confidence [10]. Visually impaired students may also have difficulties immersing themselves in groups, as they may not receive sufficient information about what they need to do or face barriers in fully participating [14].

Finally, when universities plan trips, visually impaired students may face challenges as they may be fearful of not being able to move around freely or may not have someone to guide them [14].

2.5. What is E-Learning?

According to the *Economic Times* [15] online learning is a teaching system that relies on electronic resources to deliver courses. It includes various elements such as live or recorded lectures, videos, quizzes, simulations, games, and activities [16] and allows for learning through electronic means [14].

Online learning has numerous advantages, particularly in the learning field. Firstly, teachers can efficiently deliver lessons using tools such as podcasts and PDF files [17]. Secondly, students can gain self-autonomy and self-motivation as they have the freedom to study any material or course they wish [6]. Additionally, it saves time and effort for both teachers and students, as they can work from anywhere and at any time [6]. Lastly, online learning can be more interactive than traditional face-to-face learning, as shy students can participate by typing in a chat or using a microphone without a camera [8]. However, e-learning has its share of disadvantages. Firstly, it can sometimes create a sense of isolation as students learn independently [8]. Secondly, it can lead to students becoming more independent and irresponsible in terms of completing their homework and attending lectures and lessons [18]. Moreover, teachers do

not have the opportunity to discipline students [5]. Lastly, teachers cannot prevent students from cheating during exams [5].

2.6. *The Advantages of Using Online Learning in Teaching the Visually Impaired Students during Covid19*

During the Covid-19 pandemic, e-learning had some benefits for vulnerable students. They were able to avoid leaving their homes and the exhaustion of transportation, which had posed obstacles for them. Additionally, they were able to complete their learning and meet with their classmates, even in the absence of face-to-face interactions. Cáceres [19] who conducted a qualitative and quantitative study on twenty-six students via telephone, discovered that e-learning was a source of entertainment during the Covid19 shutdown. E-learning has proven to be a more comfortable option for students with visual impairments. With the freedom to sit however and whenever they want, these students can better engage with the material and achieve academic success. Instead of relying on other people for help, students with visual impairments were able to listen to recordings and use their screen reader to access texts. Furthermore, online learning provided a safe environment for students to participate in lectures and lessons, free from distracting noises [20]. Online learning also gave students a chance to avoid discrimination based on gender or country, leading to increased confidence. Finally, teachers benefited from online learning by being able to provide extra support to vulnerable students at any time [21].

2.7. *The Disadvantages Using Online Learning in Teaching the Visually Impaired Students during Covid19*

Various studies, including those conducted by Ro'fa, et al. [13] and Mufaz, et al. [22] have shown that vulnerable students, particularly those in developing countries, face significant challenges with online learning. These challenges are exacerbated for students with visual impairments, who have the right to a functional vision evaluation and a learning media assessment by qualified teachers [10]. The Illinois State Board of Education [23] reports that blind students face challenges accessing Braille books and materials, resulting in poor academic performance. Even when accessible materials are available, students may not know how to use them or how to utilize their voice reader. Additionally, low-vision students may struggle with font size [13]. A questionnaire conducted by Ro'fa, et al. [13] on twenty-six vulnerable students revealed that 79.40% preferred face-to-face learning over online learning. This was due to the high volume of assignments and their lack of experience with technology. They also missed the ability to meet with their teachers and receive personalized guidance. Volunteers who helped them with exams were also unavailable during online learning.

2.8. *Economic Problems*

Moreover, online learning during COVID-19 caused economic challenges for families, particularly those from rural areas. They may not have had access to internet services or the funds to pay for fees. In many cases, families could not afford phones or laptops, and having multiple children made it difficult to prioritize the needs of a blind child over other children [13].

2.9. *Parents' Challenges in Dealing with their Children during Covid19*

Dealing with their children during the COVID-19 pandemic has been a challenge for many parents. Previous studies by Ro'fa, et al. [13] and the Illinois State Board of Education [23] show that parents of vulnerable students have faced both psychological and economic difficulties during this time. The psychological challenges arise when parents see their children struggling with their education, not receiving their fair share of learning opportunities, and losing marks. This can lead to feelings of sadness and anxiety as parents struggle to find ways to help their children stay engaged in the learning process.

To sum up, there researchers perceive that there are advantages and disadvantages to both face-to-face and e-learning, as noted by some researchers. Therefore, the researchers' goal is to highlight the benefits of both and address the difficulties that vulnerable students face.

3. Methodology

3.1. Design of the Study

Data for this study was collected through interviews, using a descriptive research design with a qualitative approach. Qualitative research is important as it provides a detailed explanation of the study [24]. This section is divided into three parts: participants' part, the instrument part, and the procedure part. It also describes how the study was conducted.

3.2. Participants

The study was conducted over the 2022-2023 academic year, with six female students from Hebron University in Palestine as participants. The researchers selected participants from Hebron University as it was easier to collect data from them due to the researcher's affiliation with the institution. The participants were interviewed individually for one hour each. The researchers have been given an approval to apply the research entitled "Visually Impaired Students in Both Face-to-Face and E-learning" on students at Hebron University. As part of the approval the researchers followed the principles of ethical research that involve human subjects. All the participants provided consent to participate in the study.

3.3. Interviews Questions

1. What are the advantages of face-to-face learning?
2. What are the disadvantages of face-to-face learning?
3. What were the advantages that you got from using e-learning in the learning?
4. What were the disadvantages that you were facing because of using e-learning in the learning process?
5. What are the solutions that you suggest for the challenges that you and other vulnerable students face in both face to face and e-learning?

3.4. Instrument

The study conducted a survey-interview to collect the perceptions of six visually impaired students from Hebron University about the positives and negatives of online learning. The researchers provided an effective literature review to identify issues related to the advantages and disadvantages of online learning for visually impaired students. The six participants were asked to answer five questions via WhatsApp call. After collecting qualitative data from them, the researchers analyzed the responses.

3.5. Procedure

The interviews were conducted via WhatsApp with visually impaired female students from Hebron University. After collecting qualitative data from them, the researcher analyzed the responses.

4. Results

The researcher begins by acknowledging that the study findings reflect the opinions and perspectives of those who were interviewed.

4.1. First Question of the Research

4.1.1. "What are the Advantages of Face-to-Face Learning?"

The first question asked was about the advantages of face-to-face learning. Interviewee one stated that it helped her develop social skills such as self-confidence, interacting with others (... *I have become more interactive with other people*), self-trust, and self-service. She also became more social and less isolated. Interviewee two mentioned that she had made many supportive friends "...*I acquired many friends whom they love me, they always give me support and help me when needed*).

4.2. Second Question of the Research

4.2.1. "What are the Disadvantages of Face-to-Face Learning?"

The second question asked about the disadvantages of face-to-face learning. Interviewee one mentioned that there were inadequate public services at Hebron University, such as elevators, step stairs, and special roads for vulnerable students. The lack of these facilities made it difficult for them to move around independently and they often required assistance. One of the interviewees clarified "*There are no elevators to make us raise to the floors or ramps which facilitates our movement, or special roads which make us far away from clashing with others. And that makes us always need someone to help us. Sometimes we find but other times we do not.*"

During the interview, the second interviewee mentioned that their translation teachers did not use any textbooks to teach their course. Additionally, they did not provide the students with any papers that contained the text they were supposed to translate, nor did they give them any texts written in Braille. As a result, the student was unable to participate in the lectures like their peers and felt confused. As for our own translation teachers, they do provide us with papers containing the text we need to translate during lectures. However, as students who rely solely on Braille, we find it difficult to understand, interact, and participate with our teachers.

During my interviews, several students shared their concerns about the exam process at our university. One student mentioned that they were not given the additional time they were entitled to by law during exams, which affected their performance "*our instructors do not give us the thirty minutes that we should take by law while we are doing our exams.*". Another student reported that visually impaired students were forced to take their exams in crowded halls instead of private rooms, leading to distractions and confusion "*...we sat in halls not in rooms while we are doing our exams, and halls are full of students all the time. As a result, we get confused and did not focus in our exams. And that confusion affected our marks.*" Additionally, some students struggled to access Braille materials due to a lack of knowledge on how to use the available tools "*but because there are few people know how to start it, we get late in getting our books, or we bring them from other places, such as Matar Project that helps vulnerable students in printing their books in braille language.*" Finally, a student mentioned that they often had to seek out someone to write their exams for them, which was time-consuming and often unsuccessful "*...we always need to seek for a person to write the exam for us. It is a problem for us because we need to post on social media that, and that take a lot of time from us. Also, sometimes we do not find because we do not know a lot of people or our classmates have exams at the same time, we are doing our exams.*". These issues create significant challenges for students and need to be addressed.

4.3. Third Question of the Research

4.3.1. "What are the Advantages of using E-Learning in Teaching the Visual Impaired Students?"

When asked about their learning strategies, one interviewee shared that they listen to recordings of lectures and summarize the points they didn't understand with their teacher "I could relisten to my lecture again and summarized the points and things that I could not follow with my teacher." Similarly, I also listen to lectures again and summarize any confusing points with my teacher. Another interviewee mentioned that their university offers online learning opportunities with teachers from other cultures like America and Britain. My university also provides online learning with teachers from different cultures, giving me the chance to meet people from diverse backgrounds "*I have the chance to meet a lot of people from other cultures.*"

4.4. Fourth Question of the Research

4.4.1. "What are the Disadvantages of using Online Learning in Teaching the Vulnerable Students during Covid 19?"

In response to the question, one interviewee shared that they faced challenges when taking exams alone, as they needed someone to assist them. This made them feel dependent rather than independent and caused feelings of sadness, depression, and stress "*...I was not an independent person like my classmates.*"

Every time I had an exam, I had to find someone to solve it for me. Both finding a person to solve the exam and thinking of how I could solve it alone if I could not find a person to be the reader of it made me very sad and frustrated.” The interviewee explained that they had to find someone to help them with the exams, and if they couldn't, they felt frustrated and sad. They also had difficulties accessing electronic resources for assignments and term papers, as their screen reader couldn't read them well, especially if they were outdated. This made it hard to find enough resources for their research “*I could not find sufficient resources for my research and assignments, and even if I found them, we could not use them because our screen reader could not read them well especially if they were ancient resources.”* Additionally, another interviewee reported that their grades had decreased during the COVID-19 pandemic due to a lack of training from the Palestinian Ministry of Education in navigating the new electronic platforms “*... my marks, during this period, were very low, for I did not get enough training from the government or Palestinian Ministry of Education in dealing with the new electronic platforms.”*

4.5. Fifth Question of the Research

4.5.1. “What are the Solutions for the Challenges that Visual Impaired Students were Facing during Covid 19?”

When asked about improving accessibility for visually impaired students, several interviewees shared their suggestions. The first interviewee suggested that universities should establish clear rules and regulations regarding the rights of instructors and students to take additional time as mandated by law “*...universities should put rules and laws among teachers and students about the rights of them in taking the additional time they have by law.”* Another interviewee recommended that academic institutions should be properly equipped with public services like elevators. Interviewee three emphasized the need for suitable exam locations and the availability of scribes. Interviewee four suggested providing Braille materials for the visually impaired.

Regarding the challenges faced by visually impaired students during e-learning due to Covid-19, the interviewee proposed several solutions. The government should prioritize training teachers on how to work with these students in the digital world. Additionally, visually impaired students should receive training on how to use e-learning platforms. The Palestinian government should give significant attention to this issue by training teachers to work with visually impaired students in both online and in-person settings and how to navigate new apps and platforms.

5. Discussion

Regarding the first question in the research, it was found that face-to-face learning was beneficial for the six students. They reported that it helped them develop important social skills such as self-trust and self-confidence. Additionally, it allowed them to challenge stereotypes that others had about them. This is consistent with some findings reported in the literature review that showed that visually impaired students are capable of changing people's perceptions of their abilities to interact with peers and others. However, the second question in the research revealed that the disadvantages of face-to-face learning outweighed the advantages. This was due to several reasons. Firstly, the government showed little concern for the educational, psychological, and economic conditions of visually impaired students. This made it difficult for them and their families, who witnessed their struggles but were unable to provide assistance. Secondly, teachers were not adequately trained to address the unique challenges that visually impaired students faced. Lastly, students were not properly trained to use new electronic platforms.

During the interview with six female students, they only mentioned two advantages of e-learning, which were the ability to listen to lectures again and the opportunity to connect with people from different cultures. However, they faced numerous disadvantages such as a lack of access to good research resources and difficulties in participating in exams due to inadequately prepared speaker programs. When asked for solutions to the challenges faced in both face-to-face and online learning, the interviewees suggested that the Palestinian government should prioritize the rights of visually impaired students and train both students and teachers in effective online communication. They also recommended the implementation of laws that protect the rights of visually impaired students and punish those who do not comply.

6. Conclusion and Recommendations

When visually impaired students participate in face-to-face learning, they experience numerous advantages, including increased self-confidence, self-trust, and a reduction in the negative stigma surrounding their abilities. However, when face-to-face learning is not available, these students face significant challenges such as finding course materials and completing assignments. During the COVID-19 pandemic, visually impaired students were forced to adapt to e-learning, which presented both benefits and challenges. Unfortunately, many of these students struggled with e-learning due to a lack of attention from the government, insufficient teacher training, and inadequate student education about their rights related to online learning. To address these challenges and enhance the benefits of e-learning for visually impaired students, the government must prioritize training for both students and teachers on effective communication and collaboration in an online environment. Additionally, the government should establish clear legal protections for visually impaired students, and enforce penalties for those who fail to comply with these protections in educational settings.

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Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

Competing Interests:

The authors declare that they have no competing interests.

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Both authors contributed equally to the conception and design of the study. Both authors have read and agreed to the published version of the manuscript.

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