

## **Problems Facing Virtual Education During the Corona Pandemic from the Viewpoint of Teachers of Students with Hearing Disabilities: A Qualitative Study**

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### **Abstract**

*The study aimed to identify the problems that teachers face in teaching students with hearing disabilities from a distance during the Corona pandemic, using the descriptive approach, by holding semi-formal interviews via phone with (25) deaf teachers who use sign language (17) female teachers and (8) males, of all educational levels, from governmental and private deaf schools in several Arab countries (Jordan, Palestine, Saudi Arabia, Egypt, Kuwait, Qatar, Syria, Sudan, Tunisia and Morocco). The study followed the descriptive and analytical approach, which is concerned with describing the various aspects of the study problem, using semi-formal, semi-open interviews. The results indicated that teachers have faced many educational and social problems, including: technological problems, dealing with devices, internet outages in some countries, the quality of photography and technical defects, work pressures and additional burden, the family's weak role in pursuing children's studies, increased work and the resulting fatigue, increased anxiety and fear of the effectiveness of virtual education, many teachers also felt that virtual education and the need to video tape lessons violated their personal freedoms and social life. Their lives and family relationships have been affected by this pandemic, and the study recommended preparing a comprehensive plan for emergencies and crises to be used in the future for such cases and training workers with deaf people how to work accordingly.*

**Keywords:** *hearing disability, distance education, Corona pandemic, teacher of deaf students.*

### **Introduction**

The educational process is affected by several factors, including educational environment, which includes arranging class seats, classroom lighting, controlling classroom posts and clarity of the sign language used in class, and given that the world is now under the pressures caused by the Corona pandemic, education has also been affected by this pandemic, especially student education. The educational process is influenced by a number of factors, including the learning environment, which includes arranging the seating in the classroom, controlling the lighting in the room, and ensuring that the sign language used in class is clear. Additionally, given that the world is currently experiencing the pressures brought on by the Corona pandemic, the pandemic has had an impact on education, particularly student education. Due to the pandemic, many organizational aspects of the educational process for deaf students have changed, such as the use of distance education

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and the change in methods of communication and interaction between teachers and the students, adding a burden on teachers of students with hearing disabilities, in particular, whose education is characterized by environmental organization of the classroom and the use of sign language.

Hearing disability:

The World Health Organization (2017) estimates that by 2035, one of five of the population will suffer some type of hearing loss, as hearing impairment (a hearing loss greater than 40 decibels) affects the lives of 5.3% of world population, the organization has highlighted the negative impact that deafness can have on a person's quality of life, such as withdrawal from social life, isolation, and an increased risk of spreading psychological problems such as depression and anxiety. (Irish, Cavallerio & McDonald, 2017).

Most people with a hearing impairment have a limited level of hearing ability, but it is not sufficient for the use of hearing, so they resort to learning strategies for the deaf to communicate with others (Goss, 2003), and human diversity, and that they are ordinary individuals who use their hands and eyes to communicate instead of hearing and speaking, and that disability has a social source, and is a result of the physical barriers and social attitudes imposed on them by society. (Lingren, DeLuca, and Jo Napoli, 2008).

Deaf Schools:

The historical development in the education of the deaf has been linked to the outlook towards deafness and hearing impairment, so those with a medical view focus on deafness as a medical condition and that it is a deficit or deficiency, and they search for a treatment for deafness such as speech training and lip reading, and they avoid sign language on the basis that it is less valuable than the spoken language, and those with a cultural view who define deafness as merely different from the deaf person from the one who is listening, and that sign language is an equivalent language to the spoken language, and that the members of the deaf community are minority who have their own language and culture and must be preserved (Andrews et al., 2004).

Hence the idea of establishing schools to teach the deaf and hard of hearing, and usually sign language is the primary method of communication between the deaf. The first school for the deaf was established in Paris in 1769 and Leipzig 1778, then Emperor Joseph visited the Abbé de l'Épée's school in Paris, and established in Vienna in 1779 (Taubstummen institute) the third school sponsored by the government in Europe (Dotter and Okom) , (2003). The education of the deaf is closely related to the culture of the deaf, as most of those who work closely with the deaf understand and use this culture in building their educational models and methods of education. . (Horejas, 2012).

Research conducted in the 1970s and 1980s on factors affecting the academic achievement of deaf students indicated that deaf children of deaf fathers achieved a higher level than those with normal parents, this finding suggests that deaf children of hearing parents may also benefit from using sign language. However, this interpretation has been challenged, as there may be a number of other factors involved in this discovery in relation to academic achievement, the first: is the cause of deafness, so it is often the cause of deafness in children from deaf parents is heredity, while deafness in children of deaf parents may be the result of a combination of factors, some of which may negatively affect growth in several areas, the second factor: is a greater acceptance of deafness by deaf parents, the third factor is the greatest skill in creating basic language skills that need subsequent language development and which deaf parents may provide better than hearing parents. (Leigh et al., 2018).

Thus, the joint communication between parents and children leads to the early establishment of a language that in turn supports the acquisition of literacy, cognitive and social skills during the school years. Only less than half of deaf children are now able to

communicate fluently with their families, especially if the primary method of communication is sign language. (Yuknis, 2010).

Technology use:

When most of the hearing people think about technology for deaf people, they think about hearing aids, cochlear implants, and ways to restore hearing and exploit what's left of it. As for deaf people, technology is the things that will make it easier for them to live in the culture of hearing people, such as a bell with lighting for the door, a vibration alarm, video calls, communication applications, and social networks. (Leigh et al., 2018).

Social media tends to be of great importance to deaf individuals, as these communication sites allow deaf people to find each other and stay in touch, so many deaf people have deaf friends around the world who have met or communicated with them through social networks. Social network on the internet, as the deaf community is so small that the deaf people consider themselves as one family. (Stander & McIlroy, 2017).

Sign language is a multidimensional form of communication that relies on both manual and non-manual signals that present additional challenges in computer vision when using technology and video imaging in machine translation. (Asteriadis, Caridakis, and Karpouzis, 2012).

The signals in front of photography differ in space and time, as two series of the same signals can be executed at different speeds, with gestures of different sizes or at different positions of the camera. (Morrissey, Somers, Smith, Gilchrist, and Dandapat, 2010)

Shooting video gloss is a challenge, and data sets for sign language processing are often very limited in size and vocabulary. (Stein, Schmidt, and Ney, 2012).

Previous studies:

Few studies have examined the Corona pandemic and its impact on education, so the researcher has resorted to searching for electronic virtual education in the pandemic or in other environment.

The results of the Dickson and Yates (2020) survey on the experience of children and youth with disabilities and their families during the COVID-19 pandemic indicated a wide range of impacts, including poor access to essential products for children and youth with disabilities such as food products, private health and hygiene products, poor access to basic services, the cancellation of support and educational programs, the problem of school closures and the challenges of learning from home, and a general lack of information about the disease, the results also indicated concern about family income.

In Webb & Napier (2015) about the experiences of sign language teachers and interpreters, job demands and job resources in four countries, namely Australia, Canada, the United Kingdom and the United States, participants indicated that there are challenges in their personal lives due to the overlapping of continuing professional responsibilities such as managing their work demands With personal factors and family obligations, the participants indicated that it is difficult to meet the requirements of work when the officials did not fully understand the nature of the profession of sign language interpreting or the role of the sign language interpreter fully; Where a lack of supportive management may affect the performance and work of interpreters in general, translators have described financial resources as the main structural backbone of translation programs.

A qualitative study (Wooten, 2014) investigated the effects of online learning for deaf students in universities rather than the regular classroom, and focused on analyzing the writing and reading skills of deaf students. Sixteen deaf online college students who use American Sign Language participated in (ASL) as their native language, the results indicated that the students felt that their interaction with computer and Internet technology could be improved. However, there is a "technological gap" that must be overcome to

pursue learning via the Internet optimally. Participants also noted that teachers were trying hard to access the Internet and the learning programs themselves were lacking the knowledge necessary to achieve optimal learning.

(Al-Tuwaijri, 2014) study aimed to identify the problems that face teachers of deaf and hard of hearing institutes and programs in the use of educational technologies in the city of Buraidah from the teachers' point of view. The researcher used the descriptive survey method to collect information. The lack of budget allocated, the difficulty of transferring technologies, the absence of the Internet, the scarcity of programs and websites that benefit the deaf and hard of hearing, the lack of training courses for the teacher, the lack of incentives, and the weak qualification of the teacher in the use of technologies, and that the current technologies do not provide students with the minimum need And the external environment does not encourage the use of technologies, the difficulty of understanding the student through the media without the presence of a teacher, and the student's need for an interpreter to understand the materials through the media. Also, there are no current plans to integrate technology with deaf education, and the study plan did not take into account the importance of using technologies, and that the scientific material is dense, and computer subject classes are insufficient.

Commenting on previous studies:

Previous studies resorted to research on e-learning and the challenges that teachers may face for deaf students, such as “(Al-Tuwaijri, 2014)” study, or research on the effects of online learning for deaf students in universities such as (Wooten, 2014) study, but this study differs in type, as it researches the problems that face teachers with hearing disabilities students in distance education during the Corona pandemic.

The study problem and its questions:

The profession of teaching deaf students constitutes a challenge and a great burden on its practitioners, in terms of training, preparation, and raising competencies to provide accurate information to the deaf, in addition to the increasing burdens and pressures of work. Because of dealing with a group of people with disabilities, there is no way to communicate with them except through sign language, and the Corona pandemic imposed a new challenge after the shift from direct education in school to distance education. In light of this pandemic and under its multiple controls: comprehensive ban, social distancing, home quarantine and others. The problem of the current study is to reveal the problems that face teachers of students with hearing disabilities in distance education during the Corona pandemic.

Study questions:

This study attempts to answer the following question:

What are the problems that face teachers of students with hearing disabilities in distance education during the Corona pandemic? From which two sub-questions emerge, namely:

- What are the educational problems that face teachers of students with hearing disabilities in distance education during the Corona pandemic?
- What are the social problems that face teachers of students with hearing disabilities in distance education during the Corona pandemic?

The importance of studying:

This study seeks to reach the problems faced by teachers in teaching deaf students in the Corona pandemic in distance education in order to find out the sources and causes of these problems, and to limit their impact on distance education and teachers, as this study seeks to clarify the problems and try to understand and link information related to education Remotely for deaf students to help those with special needs in developing a clear vision of the educational crisis and the problems resulting from this pandemic in order to try to

develop a future contingency plan to avoid the occurrence of such problems again in the future.

Limitations of the study:

Determinants in this study were formed in the difficulty of coordinating interviews, due to the great pressure on teachers and their preoccupation with distance education, and some material difficulties were found in communication, no communication and interruption of communication several times due to the weakness of the Internet in some countries.

Study Procedural Definitions:

Corona pandemic (Covid-19): a continuous global pandemic that began to spread in the Chinese city of Wuhan at the end of 2019 and was officially declared by the World Health Organization that it had formed a public health emergency, and then turned into a global pandemic at the beginning of 2020 AD, and it resulted in what More than ten million people are infected around the world and have influenced all areas of professional, social, economic, technological and telecommunications life.

Teacher of Deaf Students: They are the teachers (male and female) who work in education for deaf students and use sign language to transmit information to and from deaf students, whether in private, government, day or full-board schools in the Arab world.

Students with hearing impairment: students who learn by using sign language and frequent deaf schools in the Arab world.

Distance education: the use of technology in distance education, whether by using tools, equipment, applications and educational platforms to transfer information to deaf students during the Corona pandemic.

## **Method and procedures:**

Study methodology:

In light of the objectives of the study and its questions that she is trying to answer, the researcher used the qualitative descriptive approach to describe the problems facing teachers of students with hearing impairment in distance education during the Corona pandemic, and semi-formal interviews were used.

Study personnel:

The study consisted of (25) teachers, including (17) female teachers and (8) male teachers, for all academic levels from governmental and private deaf schools from a number of Arab countries, Table No. (1). Table (1) Distribution of the sample according to country and gender

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Country	Male teachers	Female teachers
Jordan	2	2
Palestine	1	2
Egypt	1	2
Kuwait	-	2
Syria	2	2
Sudan	1	2
Saudi	-	1

Tunisia	-	2
Morocco	-	1
Qatar	1	1

#### Study Tools: Interviews:

The study adopted the descriptive and analytical approach that is concerned with describing the various aspects of the study problem. Semi-structured interviews were used with a sample of participants, with the aim of reaching results that represent the real reality. The semi-formal interview was used.

The initial questions for the interview were developed to know the starting points in asking questions to obtain the information that was extracted from the study questions, then building additional questions spontaneously and automatically during the interviews, according to the teachers' responses to the questions based on what has been observed from the reality of the situation, in order to further deepen In understanding.

The participants were informed of the confidentiality of this information, and making sure that no one knew the names of the participants in this study, and since the deaf community and their teachers are small and cohesive, it was very easy to reveal the speaker through basic information.

#### Interview analysis steps:

All methods of data analysis in qualitative research suggest the necessity of analyzing the data during its collection, and to analyze the results in an inductive way. Papers so that each interview is separate from the other, then in-depth reading of each phrase mentioned in the interviews, coding each response, then putting similar ideas that have common denominators in sub-categories, pattern coding, then placing subcategories into main categories and in order to ensure that the subjectivity of the researcher does not affect the subjectivity of the researcher, teachers specialized in hearing impairment were involved, and they were discussed in the issues that the researcher found and feels confused about, and these procedures are consistent with the qualitative research methodology confirmed by some references such as:

(Abu Zina and others, 2005) Miles and Huberman, 1994; Patton, 2002

#### Data Verification:

Reliability and data reliability in qualitative studies are measured by the degree of consistency and coherence of the data collected.

Stability is measured through the followed procedures, so that if any other researcher wants to follow them using the same tools, conditions and sample, he will obtain the same information, which appeared through the agreement of the researcher and other arbitrators about coding the extracted data.

### Study results and discussion:

Results of the first question: "What are the educational problems that face teachers of students with hearing disabilities in distance education during the Corona pandemic?"

The participants answered that there are a number of problems that appeared in the Corona pandemic, including:

#### First: Technology Problems:

The participants faced many technological problems in teaching deaf students remotely, especially because of the ineffective use of distance education through the different

education platforms that many countries have adopted, including Zoom, Teams and other special platforms that were designed for the school itself, as the work on that electronic system remains impractical with deaf students, as they need to see the teacher during the explanation and follow up on the signs constantly.

The reason for this is naturally due to the specificity of the use of sign language in the class and the effect of using modern technology on the quality of photography and broadcasting in terms of the occurrence of ripples of hand movements when teachers explain in sign language, especially that the quality of photography was weak at the beginning of the ban, disrupting schools and transforming learning into distance learning.

They indicated that the best method is to record the lesson in a short and simple way by explaining the teacher, translating the lesson, saving it in a video format, and sending it to students to view and review the material at any time for review and verification.

However, a large number of female teachers and teachers were refusing to appear in the video that was recorded to explain the educational material, which led to problems in agreeing on the mechanism of work between teachers and a delay in broadcasting and publishing the educational material on various platforms and communication sites.

One of the teachers indicated that, due to wearing the (niqab), she refuses to appear on the video for a tape recorder without her niqab, "I cannot shoot a video without a niqab, and I do not like my pictures spread anywhere and everywhere, so I asked my colleagues for help to describe me, but their specialty is different from me."

A number of teachers, female teachers, students and families also suffer from the problem of dealing with technology to enter the educational platform and search for lessons, assignments and exams due to the lack of experience and training on the use of technology, and others faced problems with internet interruption, especially as countries such as Lebanon and Palestine, and teachers also complained about the exorbitant internet costs in some countries, others such as Jordan, and the existence of problems in the shortage of electronic devices and their inadequate number at home, especially among poor families in many countries.

This is what many studies and literature have indicated about technical problems related to sign language visualization, such as Asteriadis, et al, 2012 and Morrissey et al, 2010.

#### Second: Family role

Educational problems resulting from the role of the family in the educational process and its impact on the education of the deaf have branched out, which led to an increase in the burden on teachers and the family together, as they were represented by the following:

Weak family support and assistance to the child in his daily lessons, duties and exams, which is mainly due to the family's inability to communicate with the student in sign language, which is the official language in which the student communicates and learns, and therefore the deaf student loses the expected home help compared to the hearing student, and this increases the burden on teacher who naturally takes the role of providing additional support and follow-up for the deaf student.

The deaf child from a deaf family also faced similar problems from the poor ability of parents to follow his lessons due to their low ability as deaf people to understand and follow the lessons of the son due to the impact of hearing impairment on them.

This is consistent with what Yuknis (2010) pointed out about the importance of joint communication between parents and children and that due to lack of communication, especially if the primary method of communication is sign language, this affects the academic improvement of the child.

And also Dickson and Yates (Dickinson, & Yates, 2020) study on the effects of the pandemic on families, such as poor access to basic services, the cancellation of support and educational programs, the problem of school closures, the challenges of learning from home, and a general lack of information about the disease.

#### Third: Effectiveness of Education

In distance education, education becomes indoctrination and education and the educational environment lose the direct interaction and communication required by the deaf, which leads to an imbalance in understanding and preserving information compared to direct interactive education that depends on communication and the use of sign language and its basic foundations, the most important of which are facial expressions and gestures, and it lacks the occurrence of feedback, and the obstacles about giving class assignments and correcting students' mistakes during the lesson explanation.

One of the teachers indicated, "I don't know if the student understands me while I am with a square screen, which does not communicate my entire body movements and does not communicate facial expressions and gestures, and I do not know if there is a lack of information that the student communicates."

#### Fourth: Teachers' Burden

Distance education increases the burden on teachers, as the work needs more attention and focus during the filming of the explanation, and teachers are also concerned about the possibility of errors and weakness in the explanation in sign language or the information not sufficiently arriving and the possibility of the student wanting to clarify more and more information, as the information is summarized before photography is for explanation, there is additional clarification, and all this leads to an increase in psychological pressure in the Corona pandemic.

The results of the first question in this study are consistent with the results of (Al-Tuwaijri, 2014) study in terms of the absence of internet, the scarcity of programs and websites that benefit the deaf and hearing problems, the lack of training courses for the teacher, the weak qualification of the teacher in the use of technologies, and the difficulty of understanding students through media without a teacher, and the scientific material is dense.

Results of the second question: What are the social problems that face teachers of students with hearing disabilities in distance education during the Corona pandemic? The intersection of private life with work: where a large number of participants indicated that they had employed their personal accounts on social media sites such as Facebook and WhatsApp in education and published lessons to ensure that they reached the largest number of students to benefit the students, and that personal information became known to the families of students. And others, groups were formed on Facebook and WhatsApp to facilitate communication between scholars, families, students and teachers with each other. This is consistent with results in the study (Webb & Napier, 2015) about the existence of challenges in the personal lives of teachers due to the overlap of continuous professional responsibilities such as managing their work demands with personal factors and family obligations.

An increase in anxiety and fatigue caused by remote translation due to the fear of making mistakes in pictorial education, as there are many teachers who rely on the style of sign language coupled with lip language and writing to facilitate the explanation, but this led to a defect when using distance education. Because of the weakness of sign language for some and the lack of the sign terminology necessary to cover the educational material for others, concern about the quality of the photography and the clarity of explaining the course material and others also contributed to increased anxiety and fatigue among teachers.



Impact of other social relationships: The increase in the time that teachers spend to cover the requirements of distance education has affected their physical and psychological comfort and the time they spend communicating and interacting with the family, whether the core or extended family, as well as the effect of busyness and their continuous use of phones and computers on their ability to cut off some Time to communicate with relatives and friends, so their personal relationships with friends and relatives have been affected by this great increase in burdens.

Violation of personal freedom: Some teachers rejected the idea of distance education to preserve their privacy, especially the veiled or veiled women, and teachers refused to photograph from inside their homes and preferred to go to schools to photograph lessons.

As it is known that at the beginning of the ban, photography for teaching was done from inside homes, and cellular devices and simple tools were used, and this meant that the photography was not literal, but rather relied on the teacher himself, and simple primitive photography this means that there is no control for the quality of sound and image as well There was no soundproofing, so the voices of those in the vicinity of the house were recorded and broadcast, which caused embarrassment to the teachers. "

What is stated in the results of the second question may also agree with what was stated in the study (Wooten, 2014) that students felt that their interaction with computers and Internet technology could be an improvement. However, there is a "technological gap" that must be overcome to pursue learning via the Internet optimally, and that teachers are trying hard to access the Internet and the learning programs themselves were lacking the knowledge necessary to achieve optimal learning.

Sparks of hope

Despite all the difficulties and challenges and despite the nature of human beings to compete for excellence, the study individuals indicated an increase in cooperation between teachers, their support for each other and their solidarity in improving education for the deaf in light of the Corona pandemic, as teachers collaborated across continents to help each other in several ways, such as using technology and ways to improve the quality of performance in distance education, to develop clearer indicative terms for the courses, and to provide feedback and moral support to coworkers.

### **Recommendations:**

The researcher recommends preparing a comprehensive plan for emergencies and crises to be used in the future for such cases and training workers with the deaf to work accordingly.

Conducting more studies on a larger community to search for ideas, suggestions and solutions to the problems that teachers face in educating deaf students.

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