IMPACTS OF COVID-19 ON EDUCATION SECTOR:
CASE STUDY OF THE 48 ARAB SECTOR

Ahlam DARAWSHA, Ph.D.

https://orcid.org/0000-0002-0958-399X

Nadia GALIA, Ph.D.

https://orcid.org/0000-0002-9039-5717

Academic College of Education, Israel, Haifa

Abstract. The current study reviews the world's educational sector in general, and Israel's education system specifically in the context of Covid-19. The study presents a case of 48 Palestinian teachers as well as socio-economic gaps that were identified to minorities that live in Israel. The results showed that teachers and principals found that shifting to e-teaching is inevitable due to the pandemic surge, yet they reported facing multiple challenges including infrastructure, teaching and learning, and environmental difficulties. The teachers and principals suggested educational institutes must find new solutions to ensure that Israeli students have equal and the same academic quality chances.

Keywords: the 48 Arab Sector, Covid-19, higher education, teacher's education, pandemic.

IMPACTUL COVID-19 ASUPRA SECTORULUI EDUCAȚIEI:
STUDIU DE CAZ ÎN SECTORUL 48 ARAB

Rezumat. Studiul prezentat trece în revistă sectorul educațional mondial, în general, și sistemul educațional din Israel, în contextul pandemiei Covid-19. Studiul prezintă o cercetare realizată pe un lot de 48 de profesori palestinieni, precum și evidențiază unele lacune socio-economice care sunt identificate la minoritățile din Israel. Rezultatele au evidențiat faptul că profesorii și directorii au constatat că trecerea la predarea online este inevitabilă din cauza situației pandemice, totuși au raportat că se confruntă cu provocări multiple, inclusiv de infrastructură, predare și învățare, și dificultăți de mediu. Profesorii și directorii au sugerat că institutele educaționale trebuie să găsească noi soluții pentru a se asigura că studenții israelieni au șanse egale și de acces la aceeași calitate a studiilor.

Cuvinte cheie: sectorul 48 arab, Covid-19, învățământ superior, educația profesorului, pandemie.

Importance of the Study

Coronavirus has projected a wide shadow universally. It has affected schooling at all levels, with schools shutting and educators scrambling to set up and spread new educational plans to go online. At the end of the study, we are coming to know and explore the effects of coronavirus crises on the educational sector at Israel's level, focusing on the 48 Arab sector. With the entire education system shut down and goes to online learning. The research helps understanding the challenges faced by the 48 Arab educational sector in Israel and on a global level. This research is exploring how the educational sector has responded to the worldwide pandemic and the shift to online learning. How this Covid-19 outbreak had transformed 48 Arab sector educational system in Israel before and after the pandemic, what were the effects of these panoramic changes? Let us analyze the implications of the outbreak to the educational sector.

Problem Statement

For instance, the Covid-19 disturbed the educational system of Israel and halted it in various ways, but the advanced institutions of Israel overcame the hindrance and continued the educational activities through various means. Schools and colleges were shut down and moved unexpectedly to online stages and distant training with many concerns. The research identifies the pattern through which the 48 Arab sector's educational system countered the pandemic.

Research Questions

- How has Corona created challenges for the educational system of the 48 Arab sector?
- What strategies Israel has developed to sustain its educational system due to Corona?
- What will be the future prospects and impacts of Corona on the education system of Israel?

Research Methodology

The research is qualitatively based, and deductive methods are used to carry the research, through Secondary Sources (Books, Articles, and Journals) research data would be collected and organized. The sources gave us a systematic understanding of the circumstances and update us on the ground information about the educational situation prevailing in the state due to covid-19.

1. How Education Has Been Impacted So Far

After the outbreak, most governments decided to close educational institutions to curtail the spread of Covid-19 temporarily. Though students and teachers were shifted to modern methods of online learning, they were met with an unprecedented level of troubles that made their teaching more complex than they thought originally.

1.1 Substantial Delays

As most of the educational institutes were closed, teachers and students were forced to move on online leaning platform, but many students and teachers had no idea how and when the educational session would resume. There were substantial delays in admissions and annual exams, and some countries decided to cancel the admission testing procedure while others opted to delay the school year, moreover, a flexible admission process was suggested to ease students in enrollments [3]. The sudden shift to a new platform from traditional methods to online learning has made it much more challenging for students to manage their time and remain productive.

1.2 Technological Difficulties

Technology also plays an important role in online education program, it was observed that developed countries were able to run their education with little disturbance but underpeopled, and developing countries suffered a lot because of lack of technological advancement. According to UNESCO, the poor and middle-income countries lost almost four months in wake of the pandemic [2]. Moreover, in regions where education isn't a

priority because of poverty, hunger and low living standards suffered more. The Arab region where internet penetration isn't good for various socio-economic reasons found it very hard to manage and pursue the online teaching system [18]. Furthermore, the disrupted Wi-Fi and confusing screen interface play the main role in disturbing online learning. Subsequently, many teachers and students find it difficult to learn and teach through these online learning methods.

1.3 Disturbing Schedules

For more young students, particularly, keeping a steady timetable is critical for keeping up discipline and inspiration. The abrupt end of face-to-face classes has made it substantially more difficult for students to appropriately deal with their time and stay gainful for the day. Also, students were made to adjust concentrating essentially at home with the teacher's decreased help. While this may urge students to investigate new examining techniques, it represents a great impediment for teachers to assess' students.

1.4 Concentration Issue

As teachers were struggling to convert their stuff into an online learning platform, another problem aroused for younger children. Young children found it difficult to concentrate on the online learning system. Young kids were more comfortable with face-to-face guidance, and it was hard to communicate in a common frontal class than on a PC based class. Moreover, disabled and special children with special needs, who additionally depend on face-to-face guidance, discover it particularly hard to shift to online stages [21]. These troubles required a more interesting way to deal with computer-based learning or may request the additional help of parents as these students explored another instructive worldview.

2.   Impact of Pandemic on Israeli education sector:

Israel's educational system experienced a period of extraordinary trouble following the Covid-19 outbreak. The distribution of technological assets augmented the gap between haves and haves-not. The online courses required various types of materials, for example, address slides, recordings, shared tasks, discussion messages, and so forth the principal issue was that not all students have PCs or Internet access besides. Other than the obvious variations in innovation access dependent on family pay, it is essential to not disregard the way that online classes require a solid feeling of solidarity. Besides that, there were also teaching issues as teachers also don't know the operating procedure of online teaching methods. Subsequently, educational institutions continue to focus on traditional teaching methods, academic skills, and cramming, so it was difficult for teachers to make online learning. Students and teachers were reacquired to be more creative and resilient because that was how they could overcome troubles.

2.1 Teacher education during the pandemic

The shift to online Education in Israel was swift and instant. With the whole educational system shut down, teachers adopted online learning methods. All and personal educating and realizing, which is the common kind in the schools, changed for the time being to either collaborative or unusual teaching or a mix of the two. Teachers needed to settle on fast choices concerning their educational plan and prospectuses, which must be adjusted to the new system. One of the problems that emerged by then was the vulnerability regarding how long the distance learning would last. Proceeding with the internet learning or getting back to grounds bears a binding effect with regards to the capacity to prepare. However, it was exclusively following three weeks of web-based encouraging that it turned out to be certain that this method of showing will most likely stay until the finish or end of the year. This forced all the teachers to move to a new online learning method, including those who were hesitant in using technology. To familiarize themselves with the new Online Learning Management System and other digital platforms devised by the colleges and other educational institutions. Online lectures and webinars were conducted to educate teachers on-campus facilities like electronic libraries were made to access remotely. As things started to settle for teachers in the meantime, things were getting reversed for students. The overburden of classes forces students to dropouts. Financially, many students were unemployed, forced to leave their rented houses, and extended periods of sitting before PC screens got terrible to them. They have also begun to the breakdown in classes as they received various assignments and tasks from every teacher. In this way, in addition to voicing their complaints, it was too often that students were not present in class. They entered the class used the link they have given yet haven't turn on their camera and hide behind the dark screen. In most cases usually, students were engaged in other tasks as they already pre-occupied with other matters. As figuring how to learn and teach on a distance learning online platform which requires a significant level of commitment, collaborative and proper concentration, learning just as peer interaction, that was a serious dilemma for teachers [9]. Besides, complaints regarding technological equipment were addressed and financial aids were being provided to students who needed it, and scholarships were granted to deserving students and those who belonged from the Arab community [6]. But the training of teachers for Israel was not an issue because they have negligible numbers of international students and usually education being conducted in Arabic and Hebrew language.

2.2 Increasing digital gaps

The combined back-to-school plot was additionally like to expand the social gaps between Israeli students. Israel entered the Covid-19 emergency in a bad way regarding academic holes and gaps between students from its top percentiles and those from lower percentiles. The OECD's 2018 Program for International Student Assessment (PISA)

results mentioned Israel in first place in terms of the divide between strongest and weakest students [13]. As Israel shifted to distance learning, the digital gap between the students grew dramatically as the country's weaker population has less access to the internet and lacked digital tools. According to Tomer Smarakandi, executive director of the Israel Scholarship Education Foundation (ISEF), Rich schools have better infrastructure to support the online learning system [14]. They can hire consultants to help children make sure they are learning. Parents with more money can pay tutor fees, and in the end, this will grow the socio-economic gap between the students. In Israel ultra-Orthodox Jewish community and Arab are the two prominent community groups; they make up 12% and 20% of the total population. The population is composed of large families living in intense socio-economic lives and highly dependent on government support; also, they have a very low rate of the labor force [22]. Besides these economic hurdles, they also have their behavioral norms and values that restrict their children in distance learning. For example, most of the groups in the ultra-orthodox community do not use conventional social media or mobile phones; moreover, a higher rate of covid-19 was observed in the ultra-orthodox Jews community rather than the general population [5]. Besides, their socio-economic conditions also restrict them from using such technology tools in online learning. According to the education committee of the High Follow-Up Committee for Arab Citizens of Israel, attendance in online learning, especially in Arab and orthodox schools was around 20% [14]. In comparison, according to the ministry of education, public schools record 75% of attendance during the pandemic at Jewish educational institutions [14].

Table

Epidemiological investigation data, COVID-19 outbreak, Israel, May 2020 (n = 1,316[a])

Group	Number of persons	Number tested	Males		Confirmed cases		Males, of confirmed cases		Median age in years (cases)	Symptoms	
			n	%	n	Rate (%)	n	%		n	%
7th grade	197	197	106	53.8	40	20.3	25	62.5	13	19	47.5
8th grade	197	197	102	51.8	34	17.3	19	55.9	14	15	44.1
9th grade	187	187	94	50.3	61	32.6	32	52.5	15	30	49.2
10th grade	200	200	110	55.0	9	4.5	6	66.7	16	2	22.2
11th grade	195	194	98	50.5	6	3.1	3	50.0	17	0	0
12th grade	188	186	87	46.8	3	1.6	1	33.3	18	0	0
All students	1,164	1,161	597	51.4	153	13.2	86	56.2	15	66	43.1
Staff	152	151	51	33.8	25	16.6	9	36.0	40	19	76

COVID-19: coronavirus disease.
[a] Overall 1,312 members of the school community were tested: 1,161 students and 151 staff.

Figure 1. Coronavirus outbreak and affected persons in different grades [19]

As a result, the effects of covid-19 on Arab and Orthodox Jewish communities were severely affected as compared to the general population. The Coronavirus reminded us

once again of the inequalities and socio-economic gaps that exist between the different Israeli populations [11].

Moreover, when the virus outbreak in the country it showed more response in lower grades classes, the data shows the number of cases, and it was observed that lower grades people have shown more symptoms of covid-19 than the higher grades classes, the following table investigates the data of Israel's educational institutes during the pandemic [19].
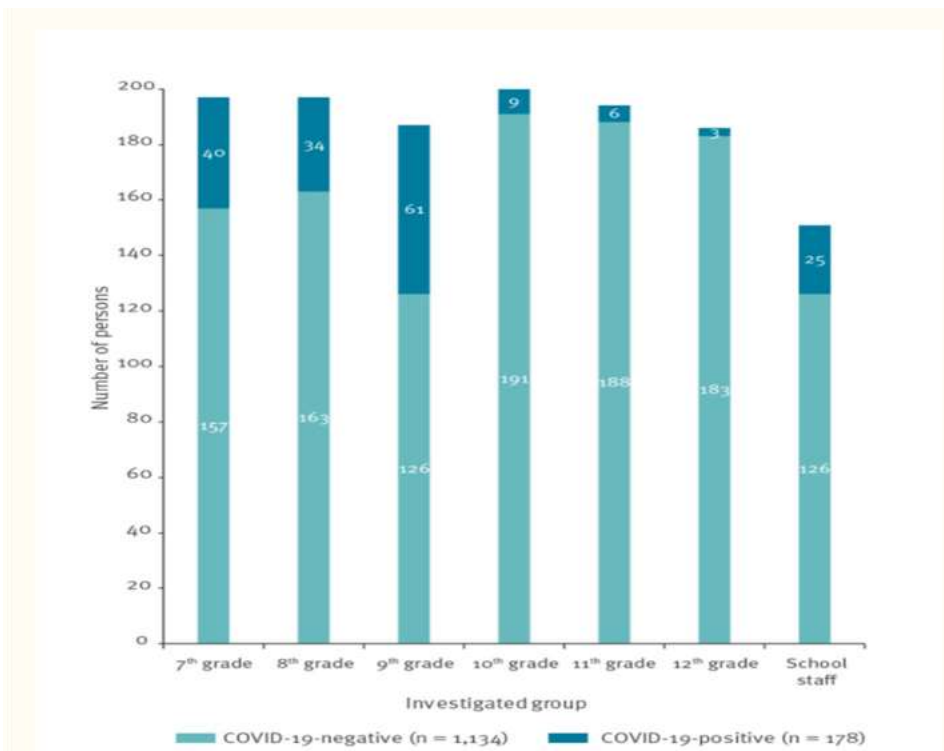

Figure 2. Chart shows testing results among educational institutes of Israel [19]

These are the results of Covid-19 testing in schools. The role of kids and young people in COVID-19 spread is obscure; indicators about the pandemic information suggest that children are sensitive towards the virus as virus could easily caught them. But couldn't affect the children, on other side they acted as a transmitter in spreading the virus.

3. Israel's Response to Pandemic

Israel's response to the pandemic was not different as other countries were. Israel's Ministry of Education directed all the educational institutes for the immediate and complete closures. In response to school closure UNESCO recommends distance learning programs for uninterrupted teaching [10]. Israel Ministry of Education (MoE) established distance learning platforms for online teaching, and on the recommendations of the Ministry of health, certain protocols were made mandatory for educational institutions to follow during the pandemic [7]. For students enrolled in higher education, and Open University was also established for distance learning. The structure of the degree is acquired by students at where each course has an assigned site that incorporates study and advancement materials,

innovative guides, a discussion for talking with scholarly teachers and conversations among the students, and the instructions about phone guides. A few of the course's direction for web-based learning was given intelligent online direction meetings where students can take part in classes through talk rooms and receivers, where the online meetings were recorded and seen at student's demand. As a result of the COVID-19 pandemic that spread worldwide by and large and Israel, specifically in mid-2020, and the lockdown implemented, campuses were shut, and colleges and schools worldwide were compelled to switch to immediate distant teaching. Though, the vast majority of the teachers had no past knowledge in internet educating, the critical need to grasp a promptly accessible and reasonable innovative arrangement constrained the higher authorities to give new directions whereby physical teaching would look at this point would not have been being possible at primary to advanced education (until the resumption of routine life) and hence during lockdown learning would be strictly on the web or online. This guidance encouraged Israel's educational institutions to additional fast direction measures (both for the teachers and for the students), with the end goal that in a brief period, practically all educational courses were given on the web. This change was made surprisingly fast, with no ideal opportunity for arranging, to such an extent that both the staff and the students were constrained to grasp new educating and learning techniques and innovations at top speed, using learning the board frameworks, course sites, and computerized apparatuses for distance learning.

4. Online Education and student's satisfaction

The sudden and rapid shift towards online platforms in Israel had various impacts on the quality of learning and the educational lifestyle of students. A study had been held at Tel Aviv University among students, studying their attitude towards online learning, presented initial reports and findings that facilitate distance learning as well as hurdles and barriers that have been received by the students [4]. The survey findings explain that online learning facilitates students in managing their schedules as per their personal needs. Besides, they see web-based learning as encouraging an adaptable report pace, as it is conceivable to them that they can listen to recorded lectures whenever they want. Besides, they reported that learning from home was more convenient for them as they didn't need to go into campuses, resulting in saving their time and money. Apart from benefits, most of the students also identified the limitations of online learning. Most students perceive distance learning as a drop-in educational quality as many teachers don't have any experience regarding online teaching methods and find it hard to adjust with modern technology tools. Students also reported a decline in motivation and found it difficult to concentrate during online lectures. Here are statistics of some research conducted by Tel Aviv University and the National Union of Israeli students [4].
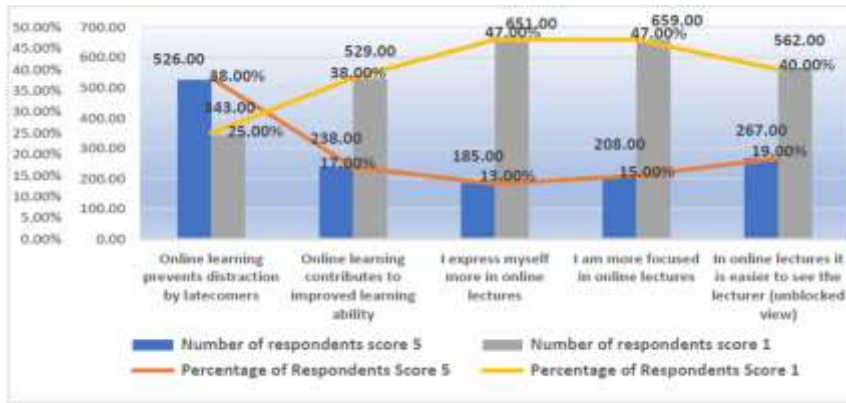
Figure 3. Troubles regarding improving learning abilities through online learning [4]

The above statistics show that more students are inclined towards online education.
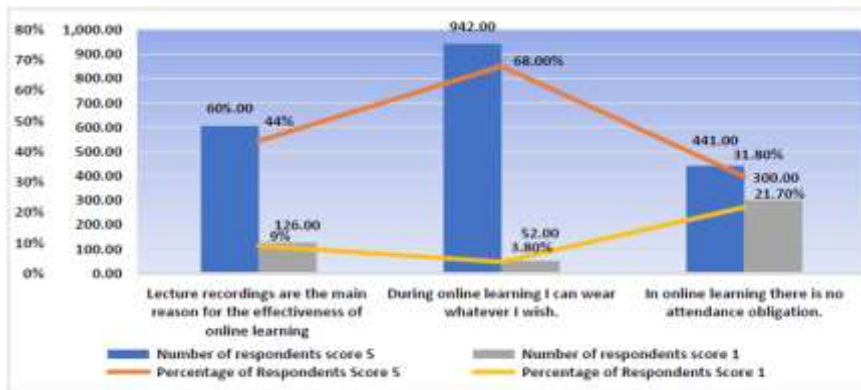

Figure 4. Troubles regarding the benefits of online learning for the students [4]
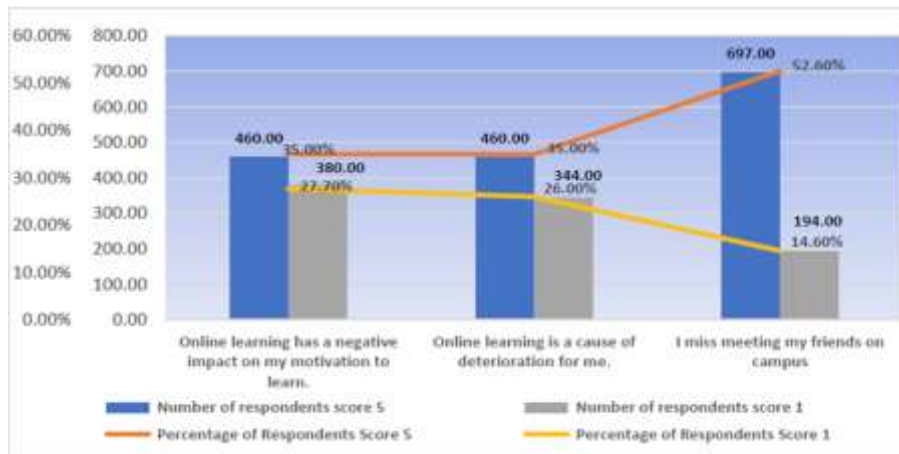

Figure 5. Troubles regarding the shortcomings of online learning for the students [4]

Tel Aviv University and the National Union of Israeli Students conducted the findings and surveys shown above. All three surveys have shown that students perceived online teaching in a very welcoming way, and it has a lot of benefits. Still, this teaching method also has some limitations and considerable disadvantages too.

5. Results

A convenient sample of the 20 educational staff including 6 teachers, 5 school counsellors, and 9 principals and their vice-principals. The participants responded to

questions regarding aspects of electronic teaching categorized into: the changes that occurred to education, the reasons for using computers in the educational process, the challenges facing electronic education, the proposed suggestions to decrease the electronic education obstacles.

The changes that occurred to education

The participants' general attitudes towards the changes occurred to education are negative, most of the participants believe that the schools respond to the changing mode of education from personal to electronic was not organized and timely with more negative view among schoolteachers. However, the participants agreed that it is the most appropriate manner of teaching due to the pandemic circumstances, because of the precautions taken to control the disease spread across the communities and age groups, in accordance with the Maltese educational personnel experiences revealed by Busuttil & Farrugia (2020). In such unusual conditions, it is expected that schools provide support for the educational process parties, mostly, teachers, who form the core of education, teachers, school counsellors, and principals/vices, reported not providing sufficient assistance to ease the transition process. Also, complaints among the educational parties included poor communication among them and other components of the educational process. The respondents attributed this to the hastening transition process and the chaos created consequently, that risen because of the conferring speculations to return to traditional teaching, however, this is considered by Pokhrel, S., & Chhetri (2021) to be challenging due to the "operating procedures put in place" that would interfere with the previous procedures.

According to Peñarrubia-Lozano et al. (2021) "there is a need to adapt and adjust the implementation of this methodology by considering not only its specificities, but also a combination of e-learning and traditional teaching methodologies can help to introduce information and communication technologies (ICT) into classrooms".

The infrastructure is crucial for the e-education success, this include good and powerful internet connection that is satisfies the educational process purposes, which according to the respondent was below expectations and suffered different problems such as abrupt disconnections, loading issues, and slowed connections. In addition, devices are another significant component of the educational infrastructure that the teachers and principals/vices complained about its shortage or being old versions that hinder the educational process while school counsellors had different perspective, stating that the devices are sufficient noting that most students and parents, even whole households own multiple devices ranging between smartphones, tablets, computers and laptops. These findings are also in line with Aliyyah et al. (2020) study outcomes that reported issues facing online teaching.

The flow of the educational process such sending and receiving tasks, activities and other online teaching requirements was not easy according to the educational bodies participated in this study, because the students were either ignorant or report problems with such activities and do not follow the course requirements or updates on daily or even regular basis, consequently, reporting that the electronic education didn't meet the educational purposes set at the beginning of term. Also, the teachers invested in the social media to provide variant enriching educational experience to the students as they indicated but the principals/vices believe that the usage was not in the expected levels of deployment, disclosing that teachers felt exhausted with the educational burden laid upon them along with doing their roles as parents during lockdown.

In the traditional methods of education, it was supposed that the educational process is teacher-centered, but with the shift to electronic education, some claimed that this centralization also changed to be student-centered, which is negated by teachers and counsellors but not the majority of principals/vices.

The reasons for using computers in the educational process

The teachers, counsellors and principals/vices attributed the use of technology in education to multiple reasons, most importantly, motivating students to search the internet for information that according to their point of view would widen their knowledge horizons and information bank in addition to improving their computer skills, whereas the principals/vices ponder this attitude, since students seem to rely on the internet to copy/paste their tasks instead of using it to consolidate their self-reliance. Furthermore, using technology, with focus on the internet, aims at promoting and encouraging students to read books, articles and electronically published resources of all types. Meanwhile, both teachers and principals/vices and countable number of counsellors reported not using the internet or technology to improve the students' skills on projects preparation using the internet accrediting that to the difficulty of this mission, due to the skills the students need to acquire and master regarding searching and writing skills. Additionally, the teachers and principals/vices indicated using emails to send the students tasks and activities or even enriching material but not according to the counsellors whose attitude can be explained in view of their indirect involvement in the teaching process.

The teachers and principals/vices and some of the counselors concur that technology integration into education is not restricted primarily using PowerPoint, which they also believe applicable to using images or graphs in the classroom. The educational staff believe that PowerPoint presentations are no longer attractive or effective considering the fusion of new methods of media such as videos, infographics or even videogames designed for educational purposes. There is also agreement among teachers, counsellors and principals/vices that their role is not only educating the students but extends to include

parents and the other teachers to benefit from the educational websites so as to assist the teaching-learning process and decrease as much of the difficulties.

The challenges facing electronic education

The unexpected shift to electronic education entailed challenges that all respondents consented to facing, most challenging problems from the perspective of teachers and principals/vices included maintenance of devices, limited number of devices and software, high financial costs, low levels of teachers training on using technology in the classroom, the teachers' insistence of the traditional teaching methods, low levels of awareness of the importance of e-learning which is associated with the believe that e-learning is a waste of time, the unsuitability of the teaching material to e-learning, the load of burden required from the teachers, the low abilities and capabilities of the students that complement the prerequisites of e-learning and their insufficient computer skills, the students unawareness of the kinds of e-learning, low motivation towards learning on the side of students, the unavailability of suitable internet connection and environment in the houses. In addition, the participants added to these difficulties the increasing number of students, the difficulty of detecting cheating, the difficulty of online monitoring and guiding of students, the hardships of following up students' inquiries and lastly, the inexistence of incentives that motivate the teachers to innovate which are also reported by Aliyyah et al. (2020), Bozkurt et al. (2020), and König, Jäger-Biela & Glutsch, N. (2020)

The proposed suggestions to decrease the electronic education obstacles

The participants were also presented to namouras suggestions to overcome the e-education difficulties, where distinctive differences were seen in their attitudes towards it. The principals/vices and counsellors showed agreement towards starting comprehensively organized training program for all educational components, but the teachers showed negative perspective regarding this solution, which might be resulting from the expected burden that would be added to the teachers' responsibilities. On the other hand, all of the participants believe that it is fruitful and practical to combine traditional learning with electronic learning to enhance education and provide ample space for all the educational parties to practice and learn on their own pace.

The fund of the educational process and supplements is according to the respondents is the most significant and influential step towards overcoming most of the difficulties of e-education that would enable an ease teaching process.

The role of the local communities and civil society institutions was also proposed to be vital in supporting the integration process both financially and incorporeally that can also contribute to training the parents into using technology in education.

On a higher level, there is accordance among the participants to advocate the formulation of flexible protocols to deal with the various situations in the future including

urgent ones through providing all the educational entities the power to make decisions and act according to the suitable act of the situation.

6. Discussion

With attempts to hinder the spread of the novel COVID-19, teaching and guidance was unexpectedly and rapidly proceeding toward the web online learning methods. New helpful open entryways were being advanced and made available for the students. But still, there are many issues regarding web-based online learning. There are specific communities in every country that are less open because of language, culture, and distinct boundaries. Accordingly, they couldn't wholly participate as the Israel community comprises Arabs and Orthodox minorities. Both have their norms and values and socio-economic conditions that curtailing them in acquiring online education. Moreover, economic disparity leads to learning opportunities as wealthier children performed better during pandemic than poorer ones. Other implications were a financial disadvantage as most children were pressured to generate income of their own. In a nutshell, Coronavirus has pushed the Israeli education system and their staff members to adopt the 4th industrial revolution of the 21st century [12].

Conclusion

The situation resulting from covid-19 was so uncertain and sudden that it collapsed health care, educational programs, and other activities of many countries; the Human community went into a shock. Because of the challenges and opportunities, now we have a little idea of how to deal with future pandemics of such kinds and build institutions that would run the activities under certain circumstances. No one is sure how long the pandemic would prevail, but there is a ray of hope as various countries have made vaccines to prevent the pandemic. Different arrangements are being actualized in the education sector to empower excellent quality schooling. It is too soon to state how the Israeli schooling area will look like in the future and later on. The solitary thing we can affirm without a doubt is that the current conditions form this future. A considerable number of students won't re-visitation of school, e-learning will compound disparity, and more strain will be put on the public area. Perhaps in this way, however, there is a chance to build up another vision for Israeli schooling. With the advent of time, everybody would make use of to lack of technological knowledge. The educational institutes can overcome the challenges and find new solutions to respond to the epidemic because now everybody would have to live with it. The educational institutes must find new solutions to ensure that Israeli students have equal and same academic quality chances. One thing that should be kept in mind is that until the pandemic is over, we had to live with it and prepare our institutions in such a way that the daily activities must not be halted.

Bibliography

1. *A Timeline of COVID-19 Developments in 2020*. Retrieved from ajmc.com: https://www.ajmc.com/view/a-timeline-of-covid19-developments-in-2020. (2021, January 2).

2. *Adverse consequences of school closures*. Retrieved from unesco.org: https://en.unesco.org/covid19/educationresponse/consequences, 2020.

3. BOTHWEL, E. Flexible admissions could mitigate Covid-19 impact. Retrieved from timeshighereducation.com: https://www.timeshighereducation.com/news/flexible-admissions-could-mitigate-covid-19-impact. 2020, March 18.

4. COHEN, E.; DAVIDOVITCH, N. The Development of Online Learning in Israeli Higher Education. In: *Journal of Education and Learning*, 2020.

5. *Coronavirus disease 2019 (COVID-19) Situation Report – 94*. 2020, April 23. Retrieved from who.int: https://www.who.int/docs/default-source/coronaviruse/ situation-reports/20200423-sitrep-94-covid-19.pdf?sfvrsn=b8304bf0_2#:~:text= Retrospective%20investigations%20by%20Chinese%20authorities,%2C%20some %20did%20not.

6. Council for Higher Education. *The Higher Education System in the Coronavirus Shadows: Student Updates*, 2020.

7. *Covid-19 Guidance*. 2021, January 08. Retrieved from gove.il.com: https://www.gov.il/en/Departments/Guides/ramzor-cites-guidelines

8. *COVID-19 robs children in poor countries of nearly four months of school*. 2020, October 29. Retrieved from news.un.org: https://news.un.org/en/story/2020/10/ 1076422

9. DAVIDSON, N.; MAJOR, C. H. Boundary Crossings: Cooperative Learning, Collaborative Learning, and Problem-Based Learning. In: *Journal on Excellence in College Teaching*, 2014. p. 7-55.

10. *Distance learning solutions*. 2019. Retrieved from en.unesco.org: https://en.unesco.org/covid19/educationresponse/solutions

11. FERRI, F.; GRIFONI, P.; GUZZO, T. *Online Learning and Emergency Remote Teaching: Opportunities and Challenges in Emergency Situations*. Institute for Research on Population and Social Policies, National Research Council, 2020.

12. HUSSIN, A. A. Education 4.0 Made Simple: Ideas For Teaching. In: *International Journal of Education & Literacy Studies*, 2018.

13. ILLAN, S. *Israel's Performance Drops in the OECD's PISA student assessment test*. 2019, December 04. Retrieved from calcalistech.com: https://www.calcalistech.com/ ctech/articles/0,7340,L-3775140,00.html

14. ILLAN, S. *Israel's education system fails the Covid-19 test.* 2020, August 19. Retrieved from calcalistech.com: https://www.calcalistech.com/ctech/articles/0, 7340,L-3845594,00.html

15. *National Knowledge and Information Center for the Battle of Corona.* About: Israeli Government: Ministry of Health. 2020. Retrieved from gov.il: https://www.gov.il/he/ departments/corona-national-information-and-knowledge-center

16. QUAMEN, D. *Why Weren't We Ready for the Coronavirus*? 2020, May 04. Retrieved from newyorker: https://www.newyorker.com/magazine/2020/05/11/why-werent-we-ready-for-the-coronavirus

17. ROSEN, B.; WAITZBERG, R.; MERKER, S. *Health Systems in Transition.* 2015. Retrieved from euro.who: https://www.euro.who.int/__data/assets/pdf_file/0009/ 302967/Israel-HiT.pdf?ua=1.%20Accessed%205%20May%202020.Return%20to %20ref%202%20in%20article

18. SAEED, S. *COVID-19 has exacerbated inequality in higher education.* 2020, October 24. Retrieved from universityworldnews.com: https://www.universityworld news.com/post.php?story=20201023103200335

19. SHOOB, H.; AMBRAMSON, N.; ZAMIR, C. A large COVID-19 outbreak in a high school 10 days after schools' reopening, Israel, May 2020. *Euro Surveil*, 2020.

20. STRAUSS, V. *1.5 billion children around globe affected by school closure. What countries are doing to keep kids learning during pandemic.* 2020, March 27. Retrieved from washigtonpost: https://www.washingtonpost.com/education/2020/ 03/26/nearly-14-billion-children-around-globe-are-out-school-heres-what-countries-are-doing-keep-kids-learning-during-pandemic/

21. SUTTON, H. Survey reviews COVID-19-based disruptions for students with disabilities. In: *Wiley Online Library*, 2020. 9.

22. WAITZBERG, R., DAVIDOVITCH, N., LEIBNER, G., PENN, N., & GREENBERG, S. B. Israel's response to the COVID-19 pandemic: tailoring measures for vulnerable cultural minority populations. In: *International Journal for Equality in Health*, 2020.