The Availability of Digital Devices and Internet Connections for Distance Learning among School-age Children—Abstract

Abstract

This document was written further to a request from the chair of the Special Committee for the Rights of the Child, MK Yousef Jabareen, in preparation for a committee discussion entitled "The vital need for a computer for every child." The document presents information and data about the availability of digital learning devices (laptops, tablets, etc.) and an Internet connection (in the pupil's home) for distance learning among pupils in the Israeli education system.

The document does not address the general issue of the Internet infrastructure in various areas of the country, equipping school classrooms with computers, or the unique challenges that special education students face with distance learning. In addition, this document does not address important aspects of distance learning, such as the parents' availability to assist young children and parents' and pupils' level of digital literacy.

Below are the main points discussed in the document:

- On approximately the date that schools were closed due to the coronavirus outbreak (March 15ᵗʰ 2020), schools in Israel began operating a system for distance learning. This system consists of national broadcasts in Hebrew and Arabic alongside the transmission of materials and assignments by teachers via digital tools and platforms.
- Employing distance learning while educational institutions are closed allows pupils to continue their studies and reduces the level of disruption to their routine. It also provides them with a response to their emotional needs and maintains a supportive social and educational framework. At the same time, however, it raises fundamental problems—such as increasing the inequality among pupils—that stem, in part, from the digital gap.[1]

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[1] Eti Weissblei, [Distance learning during the state of emergency due to the closure of education institutions because of the spread of coronavirus](#), Knesset Research and Information Center, March 2020 [Hebrew].

- Universal access to distance learning requires all students to have technological devices (especially computers and Internet access) in their home. Otherwise, distance learning could broaden the gaps—which anyway exist—between pupils from different population groups and socioeconomic backgrounds.[2]
  - **The Ministry of Education guidelines regarding distance learning during times of emergency only marginally address the responses that are needed for pupils from different backgrounds and the gaps that exist between pupils as regards access to the technological means required for learning.**
  - The Ministry of Education Director General's circular from January 2019 entitled "Guidelines for the Education System in Emergencies"[3] discusses, among other things, operating schools as emergency learning centers, including through the use of online distance learning. The circular mentions that while the school operates as a flexible learning center, "the school is to take into consideration the special needs of various groups of pupils, such as those in special education, immigrants, struggling pupils, and other groups." **However, it does not provide clear directives for how to achieve this goal.**
  - According to the Emergency in Real Time procedure, which was published by the Ministry of Education in early 2020,[4] the school's principal and the teacher should assess the pupils' access to the Internet at the start of the school year. Pupils who do not have an Internet connection should be paired with friends who live nearby or sent to a local learning center—library, community center, etc. **These instructions apply to all educational institutions in the education system— including those in the Haredi and Arab education systems—but they, too, do not specifically address the solutions required for these populations.**
  - We note that during the period of the distance learning, the Ministry of Education published detailed guidelines for each age group, which required teachers to provide all pupils, including those in kindergarten/ pre-school care (ages 3–6), with a full school day of distance learning.[5]
  - In discussions at the Knesset, the Ministry of Education presented only general data about the number of entries by pupils to the Ministry's websites for the purposes of distance learning. **However, it cannot be inferred from these data what percentage of pupils take part in the distance learning, broken down by age group, population sector, and community, nor is it evident what solutions are provided for pupils who cannot access the Internet and other means that are necessary for online distance learning.**

The Availability of Digital Devices in Pupils' Homes

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[2] Ministry of Finance, Department of the Chief Economist, Socioeconomic and sectoral gaps in the level of preparedness for distance learning in the education system, 2020 [Hebrew].

[3] Ministry of Education, Director General's Circular, Emergency procedures in the education system, January 3rd 2019 [Hebrew].

[4] Ministry of Education, Technology Implementation Division, Emergency in real time: Procedures and guidelines for conduct and distance learning during a state of emergency, January 2020 [Hebrew].

[5] Ministry of Education website, Education Authorities and Operators Portal, Distance learning: Guidelines for preschool education; Guidelines for elementary education; Guidelines for middle and high school education, accessed: July 27th 2020 [Hebrew].

- **According to the estimates from the Ministry of Education, which are based on <u>a preliminary collection of data</u> carried out by the ministry this year, there are 95,000–117,000 pupils (i.e., 5%–7% of all pupils in the education system) who do not have a digital device, such as a computer or tablet, at home.** According to these data, most of the pupils who do not have a computer are Arab (42,000 pupils) and from the southern Bedouin community (43,000 pupils).
- Besides the aforementioned preliminary data, this document presents additional data related to the subject, which were recently published in several reports and studies. **These data do not present a consistent picture regarding the rate to which end devices are available to students (or, alternatively, lacking).**
- A document by the National Authority for Measurement and Evaluation in Education presents data from the PISA 2018 study, which include reports from 15–year-old pupils about the resources in their homes that affect their ability to engage in technology-based learning, such as a computer and Internet access. According to the data, 95% of the pupils in the general population reported having Internet access and an available computer in their homes. There was a gap between Jewish and Arab pupils regarding the availability of a "learning-suitable computer"; some 4% of pupils in the Hebrew education system mentioned they do not have a computer as compared to 11% in the Arabic education system.
- An analysis done by the Department of the Chief Economist in the Ministry of Finance, which is based on the 2018 Household Expenditure Survey, conducted by the Central Bureau of Statistics, shows that distance learning devices may be lacking at a higher rate. According to that analysis, approximately 20% of the pupils in Israel reside in households without computers and 27% do not have Internet access in their homes.
- The data from the Department of the Chief Economist point to significant gaps in this regard between the Jewish (non-Haredi), Arab, and Haredi populations. Among non-Haredi Jewish pupils, about 6% live in a household without a computer and 8% do not have Internet access at home. By contrast, 26% of the Arab pupils do not have a computer at home and 28% do not have Internet access, and among Haredi pupils, 42% are without a computer at home and 72% have no Internet access.

The Number of End Devices Available at Pupils' Homes

- Whether a pupil has a computer and Internet access at home does not guarantee his or her ability to learn remotely, as the computer may not necessarily be available for every child in the family to use for online learning at any given moment.
- According to the PISA data, 47% of the pupils in Israel reported having three computers or more in their homes, 30% reported having two computers in their homes, 18% reported having just one computer, and 5% of the pupils reported not having a single computer at home. The percentage of pupils who reported having only one computer at home is twice as high among pupils in the Arabic education system than among pupils in the Hebrew education system (30% and 14%, respectively).
- The analysis by the Department of the Chief Economist also shows that while each pupil in the highest income decile has, on average, two computers per household, only a quarter of the pupils in the lowest income decile have a computer at home. In other words, the highest decile has nearly ten times as many computers per pupil compared to the lowest decile. **This finding illustrates the difficulty of implementing distance learning for pupils in the lower deciles,**

which include more than 20% of all pupils in the education system. Practically speaking, most households in the lowest decile do not have a computer or Internet access and lack the infrastructure required for distance learning.

<u>**Responses to the Need for Digital Devices for Children**</u>

- The issue of ensuring the availability of technological devices that would allow all pupils to participate in distance learning was raised already at the beginning of the coronavirus crisis, both in Knesset discussions and in petitions filed with the High Court of Justice.
- During the discussions at the Knesset in late April 2020, then-Minister of Education MK Rafael Peretz and the Director General of the Ministry of Education reported that NIS 50 million would be allocated to narrowing the digital gap between pupils, funding that would ostensibly suffice to purchase end devices to be distributed to pupils by the local authorities. They noted that this is a partial solution that does not come close to fully addressing the issue. It was subsequently decided that the devices would be purchased and distributed through the Computer for Every Child program, which is operated in collaboration between the Prime Minister's Office and the National Project for Social Development.
- According to the reply by the Prime Minister's Office to our inquiry, the Accountant General in the Ministry of Finance approved a budget of NIS 30 million. Of that sum, an allocation of NIS 27 million for purchasing computers was approved from the budget of the Prime Minister's Office— NIS 13.5 million for activity in 2020 and an additional NIS 13.5 million for 2021. **Note that the 2021 budget was given only tentative approval; final approval is conditioned on the approval of a State budget for 2021.** In addition, an allocation of NIS 3 million was approved for the Ministry of Education to purchase technological devices for distance learning for pupils in the Haredi education system.
- Since the beginning of 2020, almost 7,000 computers and computer packages have been distributed through the Computer for Every Child program (including the 4,000 computers whose distribution the Prime Minister announced in April). As a result of the budget increase, the program is preparing to distribute an additional 5,000–8,000 computers. However, the program has a brief period of time to make use of the additional funding that was approved—only five months remain until the end of the year—and it is not clear whether the program will manage to fully utilize its funding.

<u>**Two main gaps emerge from the data presented in the document:**</u>

- **The picture of the shortage among pupils of end devices for distance learning is incomplete, and the data available from the existing sources are inconsistent.**
- **The response recently approved by the relevant governmental authorities will help some of the pupils in need. Still, it does not provide a comprehensive solution to the problem, even using lower estimates of the shortage rates.**

We note that in the discussion in the Special Committee for the Rights of the Child on "The vital need for a computer for every child," which was held on July 28th 2020, the representative of the Ministry of Finance reported that his ministry had reached an agreement with the Ministry of Education regarding a budget of NIS 500 million for school infrastructure and a NIS 400 million budget to purchase computers—including network connectivity kits (routers and other equipment to enable an Internet

connection), insurance, and charging stations in schools—which would be lent out in a library format through school principals. The Ministry of Finance representative mentioned that this budget would be submitted for Government approval in the coming days.[6]

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[6] Protocol 13 of the Special Committee for the Rights of the Child on "The vital need for a computer for every child," July 28th 2020 [Hebrew].