

## Research Article

# Digital immigrants, digital natives and digital learners: Where are we now?

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### Article Info

Received: 19 March 2022

Revised: 25 April 2022

Accepted: 9 May 2022

Available online: 30 June 2022

#### Keywords:

Digital era

Gifted students

Guidance and counselling for gifted students

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### Abstract

Students' competencies in clinical practice is vital in health sciences. Clinical simulation is one approach used to support students' learning in clinical practice. There is a lack of research on clinical simulation in acupuncture programmes in the African context. This paper explored the experiences of students' views towards clinical simulation in the acupuncture programme to strengthen clinical teaching using the Technological Pedagogical Content Knowledge Framework as a theoretical lens. A qualitative research approach with an interpretivist paradigm was adopted. A single case study design was selected. Six undergraduate students voluntarily agreed to participate. The data were analysed inductively using the thematic analysis approach. Findings revealed that students were optimistic about clinical simulation because it assisted them in their practice. The findings highlighted students' views regarding the lack of knowledge and skills among instructors and poor infrastructure. The study also found that students gained more confidence in the clinical simulation since they were aware that the patients are not harmed. It is recommended that clinical simulation should be included and standardised in the acupuncture curriculum. To improve clinical simulation, the authors recommended that clinical simulations should be carefully planned and coordinated; training facilities needed upgrading to accommodate Covid-19 regulations and a detailed handbook on clinical simulation should be developed to standardise the simulation process.

### To cite this article:

David, H. (2022). Digital immigrants, digital natives and digital learners: where are we now?. *Journal for the Education of Gifted Young Scientists*, 10(2), 159-172. DOI: <http://dx.doi.org/10.17478/jegys.1090172>

## Introduction

"limiting screen time" is considered, among many parents, a necessary educational tool aimed to help their children learn. This punishment is quite popular among many parents – whether their children are gifted or not. Parents are also quite sure, most of the time, that this punishment is "for the child's own good", as it helps any child to learn better, complete school tasks, including homework and preparing for tests, as well as reading. Parents usually believe that limiting computer time helps getting enough sleeping time, adopt healthier life style, including eating well, socializing, doing sports, and leaving home for outdoor activities. In many families "screen prevention" is considered the only effective punishment. Parents in these families explain this situation saying: "the child does not care about any other punishment, but not being able to use their smartphone for one single day makes them crazy".

On the other hand, computers have been a useful – unavoidable mean for learning in all developed countries for at least two decades. This tendency has been intensified since the beginning of 2020, when the covid-19 pandemic has forced many educational systems, even those who had series objections against "learning by computers", to transfer to online learning. Furthermore, educational gaps among the "more digital" and less digital" countries, cultures and societies have been substantially increased during the last two years. For many students, especially those from high SES, online learning opened new opportunities for deep learning, subject- and even grade skipping, early entrance to university, accelerated learning while still in high- and even grade-school, better preparing for contests, Olympiads and other competitions, and easier access to them as they all transferred to online events. Individual learning of any

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preferred subject, in one's own pace, has also increased as more and more online opportunities opened, and the gifted have been the first school population to adopt them.

This allegedly contradiction, between the positive and the negative aspect of the accelerated digitalization due to the covid-19 pandemic has aroused serious issues for parents of the gifted. This keynote is to shed some light on the issue of parenting gifted children who have been born into the "computer era" and how the covid-19 pandemic influenced it. It is also to discuss already-existing beliefs, world-views and values of digital immigrant parents with those of their native digital children.

### **Short History of Digital General Gap Digital Native Children Versus Digital-Immigrant Parents**

More than a quarter of a century ago, Tunbridge (1995) had wrote about digital natives versus digital immigrants: "[...] generally speaking, at this stage, if you're over 25, you're an immigrant. If you're under 25 you're closer to being a native, in terms of understanding what it is having a real basic sense of it" (p. 2). Six years later, with the publication of the two-part Prensky (2001a,b) article "digital natives, digital immigrants" these terms have become accepted by the scientific community as differentiating between those who use computers for work, leisure and entertainment, education, communication and everyday tasks, and those who do not (e.g. Creighton, 2018; Goodson, Knobel, et al., 2002; Lankshear & Bigum, 1999; Rakhmawati, & Kusuma, 2015; Rodley, 2005; Rowan, Knobel, et al., 2000; Selwyn, 2009; Tapscott, 1998, 2009).

As times passes the population living in our modern world without using screens on a daily basis becomes smaller every day. However, there is still a difference, between digital natives, who prefer using their mobile telephone, their desktop- or their portable computer as their preferred tool for ALL tasks, and digital immigrants, who also use them, but prefer not to when possible. This second group is far from being homogenous; it includes people who would use the phone, even when it takes a longer time, for payments, setting appointments, etc., and others who will still prefer reading from actual books, for example, even though they are very good at all practical, everyday possibilities the computer offers. Those belonging to the second group use also, in many cases, telephones for actual conversations, being used to listen to others, feeling the other even when not seeing them; shops – for "the experience of shopping", and some even like the chatting with the cashier at the supermarket from time to time even though they are quite good at using the automatic cashier that scans their groceries. Digital immigrants tend also to ask their children, or their grandchildren, for help when having "problems with the computer". Some of them do not even try to solve "computer-problems" on their own, even when they are quite good with other machines or home instruments...

But apparently the time of the massive use of "digital natives" and digital immigrants" has also almost passed, as even before the covid-19 pandemic started more and more natives "joined the club". Thus, many new terms have been suggested. "Digital learner" has been probably the most successful one (e.g. Bennett, Maton, & Kervin, 2008; Gallardo-Echenique, et al., 2015; Rapetti, & Cantoni, 2010), maybe because it suggests a process rather than a rigid situation – a learner is improving when time passes, and so is the level of digitalization of everybody who becomes more and more fluent in "the world of screens". There has also been an understanding that though chronological age has some correlation to the level of digitalization (e.g. Gallardo-Echenique et al., 2015; Palfrey, & Gasser, 2008), its relevant is not that important, as had been first suggested. They argue that "digital native" is a social and not a generational issue (e.g. Bullen & Morgan, 2011; Bullen, Morgan, & Qayyum, 2011; Rapetti & Cantoni, 2010). Bullen and colleagues (ibid) concluded that there was no empirical basis for the notion of "digital native". According to them, this term could have been used for classifying of social class which might have had influence on educational issues. Corona-time had indeed strengthen their claim as it showed that educational gaps have widened mainly due to differences in access to digital means.

Using the term "digital learner" switched the focus from just age to characteristics such as level of computer-expertise, intensity of computer-using, or the time-duration spent at the computer for various purposes, such as work, play, or social communication (Czerniewicz, & Brown, 2012; Gallardo-Echenique et al., 2015; Palfrey, & Gasser, 2008). The main argument for this claim has been the fact that chronological age might influence digital literacy, but it is just one single factor among many who have an impact on the ability of any individual to "fit in", to be a part of the digital world.

Thus, it can be concluded, that while the terms "digital immigrants" and digital natives" have served us in the 90ies and into the first decade of the 21<sup>st</sup> century, "digital literacy" is a more proper name for now, but will probably in use just for a limited time in the future. "Digital literacy" has many definitions. For example: According to Pangrazio (2016), it consists of three elements: the ability to take ideological and digital concerns into consideration while adopting the person's affective response; the ability to cope with collective concerns about inequalities and translating them to individual practices, and the ability to nurture technical expertise and knowledge in the service of critical

thinking. Pangrazio et al. (2020) have discovered that the meaning of "digital literacy" was different in three countries: Australia, Sweden, and Argentina.

The term "digital literacy" started being used almost simultaneously by many organizations, educational systems, business and professional organizations and political individuals representing a variety of institutions: state, city/municipal, or world-wide. For example: ALSC: Association for Library Service for Children (1999/2004) had used it in the context of Media Mentorship in Libraries Serving Youth, aimed to "help support children's librarians in their role as media mentor to children and their families. [...] children require mediated and guided experiences with digital media for the experiences to translate into positive and productive *digital literacy skills*" [my italics – H.D.]. Another example is the work of Seglem (2009), which was called: It's like having a library, and you don't get to go. Educators negotiating boundaries when working with new literacies. Libraries helped man people have access to all written documents; screens have made it possible for everybody to be more literate by increasing access to ALL kinds of information and data.

### **Teaching Computer Science in School: The Education System is Chasing Its Own Tail**

Computer science is a comparatively new school subject. But unlike basic subjects, which all students, gifted, slow or in-between must learn in order to improve their knowledge, understanding and achievements, very often gifted and high-ability students had a better understanding of than their teachers. This has been the situation until 2019; the covid-19 pandemic has showed it clearly, exposing the fact that many teachers had serious problems switching to distant-teaching, many students became in charge of handling the difficulties caused by their teachers lack of digital skills, and subsequently many parents became aware of the fact that both their demand in participating in the zoom-learning in general and in computer science classes in particular did not make so much sense any longer. The issue of parents and teachers' authority regarding school work became a very serious one.

Here is an example of the influence of digital literacy on gifted Israeli students due to the covid-19 pandemic and its consequences on their parents.

Israel is justifiably known as "the start-up nation" (e.g. Senor, & Singer, 2011; Yerman, 2019). On the other hand, the achievements of Israeli children in all international examinations – in mathematics, science and literacy has been gradually deteriorated since 1963/4, when it had the best scores among the 12 developed countries participating in the first TIMSS test until the last PISA 2018 (e.g. David, 2008, 2014, 2015, 2020). This deterioration goes along with the Jaffe-Hoffman (2021) estimation that about a half of Israeli children, mostly Ultra-Orthodox and Arab, get third-world education. The digital gap is responsible for a large part of this situation, but the fact that many teachers have not accepted to any university contributes to it as well (Ben-David, 2021).

But while both sub-populations, Arabs and Ultra-Orthodox could have made a substantial progress during the covid-19 lockdowns (e.g. Cohen & Scheer, 2020), parents of Ultra-Orthodox gifted children have had a greater problem, as many of them objected to e-learning (e.g. Rosenberg et al., 2021). Many Ultra-Orthodox schools who objected to using computers transferred to teaching by telephone, but this has limited the possibilities of individual learning, or learning at one's own pace, which is necessary for the gifted. In addition to these problems common to all the gifted who had not access to available computers gifted children – especially girls – in the Ultra-Orthodox community had in many cases home responsibilities both in the everyday household and in taking care of their younger siblings, which was a necessary task in families with an average of 7.1 children, more than twice as the average Israeli family (Cahaner & Malach, 2019). Larger families are positively related to poorer computer availability (Rabinovitz, 2020). In a reality of negative correlation between the family size and the income level (Sheva, 2021), the children most suffering were both raised in larger- and lower SES families. The gifted, more mature child in such families suffered mostly during the covid-19 crisis.

### **Covid-19 and the Gifted: Literature Review**

The literature about the impact of the covid-19 pandemic on gifted education is very poor. It consists mainly of two parts: quantitative and mixed studies done in several Muslim countries or countries with either a majority of Muslims, such as Albania (Hyseni Duraku, & Hoxha, in press) or Saudi Arabia (Aboud, 2021). Other studies done in the US had focused on the emotional effects of the pandemic (e.g. Amend et al., 2020; Support for gifted learners at home during covid-19, 2021). There is quite a number of American studies on distant learning for the gifted, but almost all of them had been done before the covid-19 pandemic emerged into our life (e.g. Olszewski-Kubilius, & Corwith, 2010; Potts, 2019; Ravaglia et al., 1995; Thomson, 2010; Wallace, 2005, 2009). The one that was completed during the pandemic (Hawthorne, 2020) was designed before the beginning of the pandemic, and the burst of the covid-19 influenced it mainly y worsening the connectivity of the internet due to massive use when lockdown started.

## The Influence of the Covid-19 Pandemic on Higher Education in Israel and the Opening of New Opportunities for a Fast Academic Track for the Gifted

Towards the beginning of the 2021/22 school year almost all higher education institutions reported about sharp increase in the number of new candidates (Frenkel, 2020). As there was a substantial decrease of available jobs and the "traditional" "big tour" of the Israeli who has just finished her or his obligatory military service, the option of higher education became more popular. Another reason for the increase of candidates who have registered to higher education institutes, for example, about 35% at the Tel Aviv University (ibid), has been the change in the acceptance policies, that enabled acceptance relying solely on the matriculation certificate without having to take the psychometric examination (Trabelsi Hadad, 2020).

These changes opened new opportunities to many gifted children, and parents of gifted, who had, until the burst of the pandemic, trusted the "system" and did not look at early entrance to higher education as an option for their children, had changed their mind because of the long lockdowns, the boredom of learning by zoom, the inability of their children to participate in afternoon extra-curricular activities, and the understanding that when the education system fails to supply the needs of all students, their children were to suffer more due to their more needs, more extensive learning, and their ability to learn without school intervention. In addition, while the Israeli Open University had always offered online classes and excellent written materials, practically all universities followed it and thus its physical access to higher education institutions were not necessary any longer for more than a year, which made it much easier for young gifted students. Thus, the open university in Israel reported of a 30% increase in the number of school age students between the 2019/20 and 2021/2022 school-years (Klein, 2021). There were reports about similar increase elsewhere (e. g.

However, other studies dealing with the influence of e-learning on gifted students reveal a different picture. For example, the results of Aboud's (2021) study on 30 gifted students in Saudi Arabia and 15 of their parents were that both outcomes were negative. The parents felt a heavier psychological burden because of school closures and isolation, and home conflicts increased. The children experienced sleep disorders, depression, isolation, frustration, and loss of motivation. Most gifted students were not satisfied with their e-learning either, experienced it as inefficient and lacking in effectiveness and connections. Similar findings were found in study of 20 gifted students and 10 of their parents in Albania (Hyseni Duraku, & Hoxha, 2021). In my opinion such outcomes point at the fact that during "normal" school time, namely, before the beginning of the covid-19 pandemic, schools were doing quite a good job supplying the need of the gifted. In addition, the results can indicate that teachers and schools in general were not well prepared for e-learning, and the problems gifted children experienced during e-learning, such as inexperienced teachers, lack of computers, maybe lack of privacy at their own homes and at their teachers' might have also contributed to their negative experience of e-learning. A similar influence of e-learning was observed in all students – gifted or non-gifted, school-age or those learning in higher education institutes. For example: in Jordan, university students from remote and disadvantaged areas had to overcome substantial challenges, such as technological accessibility, poor internet connectivity, and harsh study environments (Alsoud, & Harasis, 2021).

## When inequity of education grows, gifted education and emotional support for the gifted are pushed away

### Resources for Educators & Parents During COVID-19

**Note:** When you click on the titles/articles, you can redirect to the relevant site

<https://www.nagc.org/resources-publications/resources/resources-educators-parents-during-covid-19>

National association for Gifted Children:

NAGC seeks to provide information to educators, parents, caregivers, and mental health providers who are supporting gifted children during this unprecedented time. NAGC has turned to trusted partners, such as state gifted associations, publishing partners, and/or leaders within the gifted community, for recommended resources. However, the information provided here, except those resources published by NAGC, have not been vetted by the association, nor should they be viewed as an endorsement or as approved by NAGC. Updated 6/1/20

#### Free Webinars & Live Chats

#### COVID-19 Research

#### Teaching Online: Best Practices, Technology & Tools

<https://www.nagc.org/teaching-online-best-practices-technology-tools>

Online teaching: Best practices

What are best practices in remote learning? How can the new *NAGC PreK-12 Gifted Programming Standards* be applied to online education? These resources provide administrators and educators research-based frameworks in determining policies, protocols, and tools for serving gifted students during this sudden shift from classroom to at-home learning. Updated 5/8/20

**107 Free E-Learning Tools for Teachers in the Digital Classroom.** More than 100 open source and free e-learning/online tools to help teachers keep students engaged.

**Best Practices for Teaching Online.** Laurel Springs School has more than 150 teachers and almost 30 years of distance learning experience as a school. During this COVID-19 pandemic, the school offers a best practices guide on what works when trying to engage students online and know how to create an atmosphere of communication conducive to the online world.

**Ditch that Textbook Digital Summit.** Professional development for gifted educators! 50+ presentations from a free, online virtual conference for educators by educators. Includes dozens of speakers from all walks of education, printable PDF notes from each session, and loads of resources. Topics range from pedagogy to technology to problem-based learning and creativity. Recommended by Dina Brulles, Interim Governance Secretary, NAGC Board of Directors.

**EdPuzzle.** This tool allows teachers to incorporate the use of video in lesson plans. Find a video, add questions, and assign it to your class. Provides analytics to measure comprehension, engagement, and accountability. Also, be sure to check out their "Teaching Today" blog that includes "The Best Teacher Podcasts," which includes great tips you can use in your classroom today, interviews with experts, and more.

**Making a Sudden Transition to Teaching Online: Suggestions and Resources.** SAGE Publishing has drawn from its large body of published and peer-reviewed research to offer these resources from various journals—free of charge through April 30—to serve teachers and students around the world.

**Online and virtual learning research, from the *Gifted Child Quarterly* archives:**

Edinger, M. J. (2017). Online Teacher Professional Development for Gifted Education: Examining the Impact of a New Pedagogical Model. *Gifted Child Quarterly*, 61(4), 300–312.

Potts, J. A. (2019). Profoundly Gifted Students' Perceptions of Virtual Classrooms. *Gifted Child Quarterly*, 63(1), 58–80.

Stoeger, H., Hopp, M., & Ziegler, A. (2017). Online Mentoring as an Extracurricular Measure to Encourage Talented Girls in STEM (Science, Technology, Engineering, and Mathematics): An Empirical Study of One-on-One Versus Group Mentoring. *Gifted Child Quarterly*, 61(3), 239–249.

**QM Emergency Remote Instruction Checklist (K–12 Education).** This checklist from Quality Matters is a tiered list of considerations, tips, and actionable strategies to enact during an institutional move to temporary remote instruction of classroom-based courses.

**QM Emergency Remote Instruction Checklist Explained.** This 3-minute video explains how higher education and K-12 checklists can assist educators as a job aid when moving to remote instruction in an emergency.

**Remote Teaching Solutions.** To help educators navigate the challenge of transitioning to teaching online, SAGE Publishing is offering free access to various resources—such as eTextbooks, Learning Management System resources, SAGE Vantage Courseware, and publication articles—that can aid in setting up and managing online courses quickly and successfully.

**Renzulli Learning Free Subscription.** In response to the COVID-19 situation, through the end of the 2019-20 school year, Renzulli Learning is offering free access to its platform that provides schools a remote learning solution to support students while they are homebound.

**The Art of Instruction: TIPS for Taking Your Course Online.** Lyn Fairchild Hawks, director for curriculum and instruction for Duke TIP's distance learning programs, offers best practices in planning and delivery of online instruction.

**PreK-12 Enrichment & Educational Resources**

**Social-Emotional Support**

<https://www.nagc.org/social-emotional-support>

As COVID-19 forces us to face new norms like social distancing, remote learning, and shelter-in-place orders, gifted children may exhibit increased anxiety, sadness, intense feelings, and out-of-the-ordinary behavior. These resources offer parents and educators strategies for talking with gifted children about COVID-19 and in helping children navigate their emotions, behaviors, feelings, family interactions, and friendships through this challenging time.

Updated 5/29/20

**Parent TIP Sheet**

**Supporting Your Gifted Child During COVID-19.** This brand new TIP Sheet gives parents, caregivers, and educators strategies for helping gifted children manage their feelings, sadness, and anxiety during the COVID-19 pandemic. Special 4-page version includes strategies for children at each developmental age.

**NEW! Supporting Your Gifted Child During COVID-19 (Español).** El COVID-19 nos obliga a adaptarnos a nuevas normas como el distanciamiento social, la educación a distancia y el encierro. Ante esto, los/as niños/as y adolescentes superdotados pueden experimentar un aumento de ansiedad, tristeza, emociones intensas y comportamientos fuera de lo común.

**Articles & Blogs**

**COVID-19 and Anxiety in Gifted Children.** While gifted individuals are no more anxious than the general population, these uncertain times can cause anxiety and worry, especially when there are fewer intellectual pursuits in a day. With school closures and social distancing, it is important to help children develop a sense of purpose that can guide them as they deal with the unknown. (Kate Boonstra, March 23, 2020)

**Cultivating Calm Amidst a Storm.** How to calm our mind, body, and nervous system in the presence of a global health crisis. (Nicole A. Tetreault, Ph.D., March 18, 2020)

**Helping Your Child Manage Stress Through Mindfulness.** This article, written directly to teens and tweens, helps gifted adolescents understand mindfulness and the formal/informal pathways to mindfulness. Includes apps, books, and online resources for kids. (Michele Kane, Ed.D., *Parenting for High Potential*, Dec 2017)

**Management of Anxiety Begins at Home.** General article that focuses on the sources of anxiety in gifted children and what parents can do to help reduce anxiety at home. (Sal Mendaglio, Ph.D., *Parenting for High Potential*, Summer 2016)

#### Videos & Podcasts

**Top 3 Strategies for Helping Your Child to Cope With Anxiety During Challenging Times.** This interview with Michele Kane, Ed. D., and Patricia Steinmeyer, IAGC Executive Director, packs in many more than three strategies in under 20 minutes.

**Video: Coping with the Stress of COVID-19: Tips for Families with Gifted Children.** Edward R. Amend, Psy.D., of The Amend Group in Lexington, KY, shares thoughts and tips for parents and children as they navigate a new world with the coronavirus pandemic.

**Special Solocast: Thought on Parenting Differently Wired Kids Through a Pandemic.** Special short episode in which Tilt Parenting host Debbie Reber shares thoughts and ideas for contemplation surrounding parenting differently wired children through the coronavirus pandemic.

#### Resources & Evidence-Based Practices

**Parenting in Time of COVID-19: From World Health Organization, CDC, UNICEF & Others.** To help parents interact constructively with their children during this time of confinement, these six 1-page tips for parents focus on planning one-on-one time, staying positive, creating a daily routine, avoiding bad behavior, managing stress, and talking about COVID-19.

**Coronavirus Disease 2019 (COVID-19) Resources.** Collection of resources curated by the National Association of School Nurses, including *Teaching Students and Families During COVID-19*, *Guidance for School Principals & Superintendents*, and *Talking to Children About COVID-19: A Parent Resource* in English, Spanish, Chinese, Korean, and Amharic.

**Health Crisis Resources from the National Association of School Psychologists (NASP).** This microsite contains numerous resources for various audiences navigating the COVID-19 virus—including special guides for school administrators, crisis response teams, mental health professionals, and parents.

**Parenting with Resilience in Unsettling Times.** Advice for how parents can manage their own worries and fears, assess what we can and cannot control, and how to talk with our children during the COVID-19 pandemic. (Dr. Dan Peters, *Psychology Today*, March 16, 2020)

**Resources for Supporting Children's Emotional Well-being During the COVID-19 Pandemic.** Guidance, recommendations, and resources provided by child trauma experts at *Child Trends* and the Child Trauma Training Center at the University of Massachusetts.

**Talking to Children About COVID-19 (Coronavirus): A Parent Resource.** Also from NASP, this provides guidance to parents in teaching children positive preventive measures, talking with them about their fears, and giving them a sense of some control over their risk of infection to help reduce anxiety.

**Teacher, Interrupted: Leaning into Social-Emotional Learning Amid the COVID-19 Crisis** Psychologists from the Yale Center for Emotional Intelligence offer social and emotional learning (SEL) evidence-based practices to help educators, parents, and students get through these difficult times. (Christina Cipriano and Marc Brackett, *Ed Surge*, March 18, 2020)

The first journal dealing solely with digital literacy was already founded in 2010 (International Journal of Digital Literacy and Digital competence (IJDLDC), the PISA 2015 and PISA 2018 were still examining the "traditional" reading, mathematics and science ability of 15-year old in 72 and 79, respectively, countries and economies, as well as "financial literacy" (OECD, 2016, 2019). Only PISA 2021 examined students for digital literacy (OECD, 2021). Digital literacy, according to it, is:

Literacy in the 21<sup>st</sup> century is about constructing and validating knowledge. Digital technologies have enabled the spread of all kinds of information, displacing traditional formats of usually more carefully curated information such as encyclopedias and newspapers. The massive information flow of the digital era demands that readers be able to distinguish between fact and opinion. Readers must learn strategies to detect biased information and malicious content like fake news and phishing emails (ibid, p. 2014).

#### [SAVI 2021 Evolving-networks-of-human-intelligence]

Gallardo-Echenique et al., 2015, p. 171: Bullen and colleagues, who supported the term "digital learner" early on, reviewed the research on "Digital Natives" conducted in six different countries and at a range of different institutions, and concluded that there is no empirical basis for the notion of digital native. They argue that it is a social and not a generational issue and that the implications for education are far from clear (Bullen, Morgan, Belfer, & Qayyum, 2008; Bullen & Gallardo-Echenique et al., 2015). The assumption that students – **born roughly between 1980 and 1994 – have "natural" digital skills, is not commonly-accepted.** Generalizations based on "generational differences" are not useful for discussions concerning teaching and learning. Gallardo-Echenique et al., 2015, p. 156. *We also need to take into account young people with less skills in the use of technologies, the conditions of access and use of information, the neglect of the impact of contextual, economic, political, social, historical and cultural factors that increase the so-called "digital gap" between those who have access to the information and those who do not.* Factors such as gender, education, experience, social inclusion and exclusion, culture, institutional context, subject discipline, learning design, and the socio-economic background of students are far more important and researchers have only recently begun to examine them (Kennedy et al., 2010; Margaryan et al., 2011). Hence, "It is time to put the digital natives discourse to rest and focus on digital learners" (Bullen & Morgan, 2011, p. 66).

### Personal note

During the last 20 years, in each presentation, lecture or discussion with parents of gifted children the issue of "too much computer time" has been raised. First it was about "computers games", and was defined as a problem in families with teenagers. Gradually it has been transformed to "too much screen time" problem and children concerned became younger and younger. The last two years, with covid-19 crisis, seemed, among many families, to be a main cause of the "screens addiction", as I have heard time and again, but when looking deeply into the situation the picture might be different: indeed, the lockdowns and the tension have increased the screen-use, indeed, e-learning, especially for gifted children, made access to their home computer, their laptop or their telephone more accessible, but "too much time at home" and "keeping the children busy" cannot be blamed for any addiction but rather – for a solution that "is always there". For able students who have been studying 5 days a week mainly by zoom, had not been effective (e.g. Dattel, 19/9/20) and many had just turned their computers on but did not participate in the classes at all (the Ministry of Education has not approved of opening the camera during zoom meetings, e.g. Pinchas, 14/12/20), so many school students close their cameras and the most frequent reason for doing it, as had been found by Baratz (n.d.), is "doing something else during classes". If this had been found among the general population, prospects are much higher that the gifted would feel bored, as "learning is the opposite of boredom and learning is the antidote of boredom" (Kanevsky & Kanevsky, 2004, p. 20). The gifted child, who is prone to boredom at school at all times (e.g. Assouline, Lupkowski-Shoplik, & Colangelo, 2018; Siegle, & McCoach, 2018) would be much more bored during zoom classes,

Another example is also computer related: many children have too much screen time, but gifted children, who are good at computers, can infect computers with viruses, make connections with non-safe persons, or learn how to spend money gambling, shopping, etc. before they are 10. Parents of the gifted are challenged as they wish, in most cases, not to stop their children's development in computer's science, programming, etc., but they have to supervise them on a regular basis and be very strict as the gap between their children's technical and scientific abilities and their emotional development is much larger than among the non-gifted.

### Screen Time and the Covid-19 Pandemic: What Have We Learnt?

Back in 2016 Pangrazio wrote:

*We also need to take into account young people with less skills in the use of technologies, the conditions of access and use of information, the neglect of the impact of contextual, economic, political, social, historical and cultural factors that increase the so-called "digital gap" between those who have access to the information and those who do not (p. 171)*

Today we can read it as a prophecy, namely, the notion that as much as information technology is important, as much as having more knowledge about new media, being able to quickly adjust to the latest data, as long as there are inter- and intra- digital gaps, the only certainty existing is that these gaps will widen whenever the system was to be tossed from side to side. We have all just observed it during the covid-19 pandemic, when many populations did not have access to computers, or to online learning, or to more elementary needs – such as medications, equipment and vaccines.

Two Israeli studies examined in the last two years the influence of massive use of digital media on various life aspects. The first (Goldshmidt, 2019) was published before the covid-19 pandemic had burst into our lives; the second (Gershby, 2021) was both conducted and published during the pandemic. However, they both have come to quite similar conclusions: there is no basis for blaming digital media as the main cause of educational, social, emotional problems, neither can these instruments take full responsibility for health- or home- and school discipline issues.

The Goldshmidt (2019) study points at many advantages that digital media have in general; almost all these advantages can be extensively used for gifted children. According to him (ibid), The internet allows remote access to information and services. Online and remote learning, maintaining connections with family members, friends, and colleagues or people who share the same interests, and taking part in social and political discourse. *All these advantages, as well as others, such as saving time and money, physical safety, especially for children, ability of parents to supervise, even control the child's connection, are much more intensified for gifted children and youths.* Gifted children, are, as a rule, less satisfied with school work than non-gifted, and need more cognitive challenges which are hard to satisfy. Online learning, finding others who share the same interests, and exchanging ideas, thoughts, even feelings with others, outside from the immediate familial and social circle, is easily acquired through screens than in the school, neighborhood and family everyday circles. As for potential negative effects on wellbeing, cognition and learning, interpersonal interactions, depression and anxiety, attention deterioration, screen-addiction and negative physiological influences: in spite of the ongoing debate on these subjects, and in contrast to the prejudice against screens heard

from educators, parents and medical professionals – there is neither transparency regarding the studies published nor consensus as to their results.

The Gershby (2021) study, about the emotional, social and academic influences of extensive screen-time during the covid-19 pandemic was done on 369 parent-child dyads in March 2021, during the third lockdown in Israel. Both parents and children showed substantial increase in screen-time of children in comparison to the pre-covid-19 pandemic. The increase was significant even after the calculation was adjusted, when taking into consideration the online learning time. To the surprise of the researcher, computer-time was not the best predictor of functioning and learning difficulties, but rather the addiction-to-screens level of the child. Functional difficulties were observed only among children whose screen use was not regulated, namely, if they had difficulties to concentrate in other activities, withdrew from important tasks and were highly emotional when not having access to screens. Thus, many children whose screen-time was substantially were, by no definition, screen-addicts. For them, additional screen time was a well-adjusted **response** to a new reality, where all learning and social spaces became unavailable. Thus, extensive screen-use was not a pathology but rather a reasonable option both for socializing and learning.

Regulation of screen-time should be connected to many other issues. For example: what is the child doing during their screen-time? are these uses varied enough according to some criterion? Is screen-time used for nurturing social connections and friendships? Is the child able to regulate their computer-time namely, be in charge of their daily regular activities, such as eating, sleeping, taking care of their hygiene? Is the child able to keep on doing home responsibilities, such as shopping, food preparing – either for themselves or even for younger siblings when necessary? All these questions, and many more, are common to all children. When the child is gifted they should be taught as early as possible to help in everyday house tasks, to become more independent when younger, and to grow up emotionally as soon as possible. Being in charge both on one's own schedule and on one's wellbeing is going to help the gifted child both in their academic path and in their familial and social connections and relationships. Being in charge of one's computer time is a good way to exercise responsibility.

Similar findings have been found in other studies. For example: Paulich et al., (2021) have found, in a nationwide sample of 11,875 participants in the United States, aged 9 to 10 years, from the Adolescent Brain Cognitive Development Study (ABCD Study®), more screen time was only moderately associated with worse mental health, increased behavioral problems, decreased academic performance, and poorer sleep, but it was also positively correlated with heightened quality of peer relationships. Nevertheless, However, effect sizes associated with screen time and the various outcomes were modest; the socio-Economics status of the children was a better predictor of each measure. Thus, the results do not necessarily establish causality, but rather that it unlikely that increased screen time is directly harmful to 9-and-10-year-old children.

### Summary and Conclusions

Thus, as much as it is the role of the parents to do anything within their power to help all children to suffer as little as possible from any problem, political or health catastrophes – such as political, health-related or climate-related, it should have been a mutual effort of the whole village – which is the whole world – to do their best for ALL children. But until this happens my advice to the parent of the gifted child is to help them achieve mental balance. This is hard, especially in the time of war, or pandemic, but necessary. The digital world develops quickly whether we like it more or less, and we, as parents, have to accept the fact that our children might be more proficient using whatever it has to offer than we, even when doing our best. But a gifted child, who is – in most cases – more sensitive than other children, needs stability, to be sure they are loved, accepted, and well-nurtured whatever happens. Only by providing home conditions assuring the child that the outer world cannot be as bad as it might be assumed when reading the news, listening to negative forecast or being influenced by internet trolls.

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