Attitudes of students' parents Toward the Integration of ICT in High Schools in Arab Sector High Schools in Israel

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ABSTRACT

The integration of Information and Communication Technology (ICT) in education has become crucial for enhancing learning, broadening access to resources, and building digital skills. While numerous studies have explored the impact of parental attitudes on online and remote learning in elementary and middle schools, there has been little focus on high school students' parents, especially within the Arab and Bedouin sectors in Israel. This study examines how parents view the implementation of ICT in Arab high schools in northern and southern Israel and how these views affect the integration of ICT in teaching, learning, and school management. The research sheds light on social and cultural barriers, as well as the challenges posed by inadequate infrastructure and traditional educational perspectives.

Using a qualitative approach, information was gathered through interviews with 22 parents of high school students across 11 schools. The main findings showed that, while parents have positive views about the educational potential of ICT, they also identified challenges such as limited digital skills, inadequate infrastructure, and cultural barriers.

The study's recommendations emphasize the need to address these challenges through parent-focused training programs, resource allocation, and improving cooperation between schools and parents via digital platforms. The study also highlights initiatives aimed at encouraging communication and collaboration within the community, supported by local councils or Ministry of Education programs, such as funding competitions, parent training courses, or youth-targeted programs.

Keywords: *Information and Communication Technologies (ICT) integration, Arab sector education, Parental attitudes, Digital education, Digital divide*.

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1. Introduction

Parents' attitudes toward the use of information and communication technology (ICT) in education are very important for its successful integration. These attitudes are shaped by social, cultural, and economic factors, which affect how parents view the use of technology in learning. Since parents have a big impact on support, trust, and willingness to invest in new technologies, their opinions are key in creating a positive environment for adopting ICT in schools. ICT offers new ways to improve learning, access to information, and develop technology skills.

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However, its use in education is strongly affected by the wider social context. This study asks: What are the attitudes of parents in the Arab community about the use of ICT in secondary schools, and how do these attitudes influence the success of ICT in education?

2. Literature Review

Recently, advancements in technology have greatly increased young children's exposure to information and communication technology (ICT) devices. Educators, experts, and parents aim for ICT use to enhance development. However, Japan stands out. A 2018 report from the National Institute for Educational Policy Research, the OECD Programmer for International Student Assessment, shows that Japan spends the least classroom time on digital devices among OECD countries, especially in language classes. In and out of school, Japanese ICT use is below the OECD average. However, Japanese children spend more time on gaming and chatting online compared to their peers. This suggests they have fewer opportunities to benefit educationally from ICT but use it heavily for entertainment at home. Improving device use to better support children's development and learning is crucial (Sato et al, 2020).

The study examined parental factors influencing children's ICT use within screen time limits. Worth mentioning, parents' screen time significantly affects children's prolonged use, showing that parents' behavior is key. Media education, which slightly guides behavior, had little impact on children's ICT use. Parents' busy schedules often stop them from managing ICT use despite concerns. Additionally, parents' ICT skills relate to more adaptive child use, suggesting that parental confidence is crucial. Parental training should focus on practical experience to boost confidence, not just theory, helping achieve genuine media literacy (Noborimoto and Takahashi, 2021). Numerous regression analysis revealed a strong relationship between parental and youngsters' ICT use times, much the same as findings in television viewing studies. Worries about prolonged use, though generally shared among parents, do not strongly influence actual ICT device use times. Notably, while educating parents about these concerns is crucial, it alone may not suffice (Sato, et al, 2020).

Our research looked at parents' views on digital technology (DT) use in early childhood and DT education in kindergartens, as well as their beliefs about home PC use for kindergarteners. While the study had limitations like small sample size, we found strong parental support for integrating digital literacy into kindergarten curricula and participating in workshops to understand DT's impacts. These findings align with recent studies (Hatzigianni and Margetts, 2014). Parents also expressed concerns about DT's effects on children's social life and health, especially weight gain due to less physical activity, echoing past studies on parental worries about young children's PC use (Mikelic-Preradivic, et al, 2016).

This study explored parents' views on adding digital literacy education to kindergarten programs. Most parents (84.67%) supported this idea. We also asked

about workshops that would inform them about the positive and negative effects of young children using digital technology (DT). Many parents (75%) expressed interest in attending. Parents shared opinions on the pros and cons of computer use. Despite acknowledging risks, most parents felt it is important for children to learn DT skills and use technology responsibly (Mikelic-Preradivic, et al., 2016).

Parents of children who are likely to use iPads generally see more benefits than downsides and have positive attitudes toward using tablets for learning. Parents of children who have used iPads for two years didn't differ much in opinion from those whose kids hadn't, showing similar expectations for tablet use (Roncevic, et al., 2016). While iPads promote creative teaching, they are still mainly used for traditional lessons. This might explain why parents of fifth graders had high expectations that weren't fully met, shifting to more realistic views over time. Gradual implementation and managing expectations are key when introducing new technology, along with ongoing teacher support to maximize ICT's benefits (Courtois, et al., 2014).

Keya, Rahman, Nur, and Pasa (2020) conducted ethnographic interviews with children and parents in Northwest Bangladesh, identifying factors like poor child-parent relationships, competitive education, parental ignorance, loneliness, anxiety, and permissive parenting as predictors of digital game addiction. Keya et al.'s (2020) research on cyber-aggression found that adolescents who cyberbully viewed their parents as permissive, unlike non-violent peers who saw their parents as authoritative (Gur & Turel, 2022).

Studies on parental mediation found that positive views of ICT and concerns about its negative impacts are key in shaping children's online behavior. Parental guidance reduces online risks and increases educational benefits (Rodríguez-de-Dios, et al., 2018). Additionally, parents' demographics and tech usage affect their attitudes and their children's behavior, stressing the need for targeted interventions and education to maximize benefits and reduce risks (Hammer, et al., 2021).

Understanding parents' views on children's technology use and how they apply controls is vital for creating effective management ICT implementation of ICT schools. This collaboration aims to enhance technology's educational benefits and reduce risks. Although much research covers informational and communication technology's evolution and impact, family dynamics are less studied. Investigating how parents' attitudes can reduce negative effects and improve technology use is needed. This study examines parental opinions on teenagers' ICT use, their control methods, and safety measures against digital risks (Gur & Turel, 2022).

Technology resistance frequently stems from feelings of rejection shaped by individual characteristics, technology attributes, and past experiences. Rama Murthy and Mani's "Three Pillars of Technological Rejection" model, based on the "Three Pillars of Sustainability", explains why some groups resist specific technologies (Haddon, 2017). Social rejection involves fears of negative social and emotional effects, economic rejection concerns financial costs, and environmental rejection includes health risks and environmental dangers. Understanding these rejection

factors is key to smoother adoption of new technologies in educational process in schools, too.

Smartphones, while beneficial for learning, face restrictions in schools due to concerns in environmental, economic, pedagogical, and social areas (Wiederhold, 2019). Environmentally, extended screen time can lead to health risks like poor eyesight and sedentary habits (Blau, Goldberg, & Benolol, 2019). Economically, their cost and fragility make parents hesitant. Pedagogically, smartphones may distract students, and schools may not be ready for effective digital device integration (Shamir-Inbal & Blau, 2016).

Socially, excessive Internet use raises concerns about harmful content, affecting children's well-being and social skills (Courage, 2019). Risks include exposure to violent or inappropriate content, bullying, data tracking, and threats to values like through suicide-promoting material. Monitoring these risks in schools can be difficult (Haddon, 2017).

A gap often exists between mobile technology's capabilities, the educational environment, and how devices are used. Teachers and parents worry that smartphones are distracting, as students can easily shift focus to social media or gaming during lessons. This distraction disrupts learning and multitasking in class, affecting both the user and their nearby peers (Courage, 2019).

Since 2010, Israel's Ministry of Education (MoE) has allowed students to bring personal mobile devices for educational purposes under the Bring Your Own Device (BYOD) policy. In 2012, concerns over health risks led to a Supreme Court petition seeking to ban smartphones in schools. The Court rejected the petition in 2016, supporting the MoE's policy. New guidelines specified that schools are not responsible for device damage or theft. Additionally, the MoE's CEO directed schools to limit smartphone-based educational activities, leading to ongoing debates over the policy (Hadad et al., 2020).

Parents play a crucial role in shaping children's remote learning experiences, especially by modeling adaptability and a positive attitude. This helps children navigate uncertainty and embrace new learning opportunities. Parents are actively involved in discussions about remote learning and offer valuable support to their children.

Many parents working from home have enhanced their children's online learning by providing direct assistance, creating conducive environments, and supporting educational activities. While some parents are less receptive, most have shown positive attitudes towards online education. Parental attitudes significantly shape children's engagement and values, influencing effective educational practices and psychological support. Research shows that 71% of parents value digital readiness for exceptional situations, and 40% support a mix of online and in-person teaching (Solaiman & Sazia, 2023).

For effective digital learning, key conditions must be met digital literacy among teachers, students, and parents (especially for younger students), adequate digital infrastructure, and pedagogical content suited for digital environments. The better the digital skills of teachers and students, as well as the quality of

infrastructure, educational content, teaching methods, and the overall learning experience, the more effective the learning process will be and the greater the skills students will acquire (Konca, Zelyurt & Özel, 2016).

A survey by the Aharon Institute and the Israel Democracy Institute showed that before COVID-19, a higher percentage of Arab students attended most classes compared to Jewish students (75% vs. 69.5%). However, with the shift to online learning, the decline in attendance was more significant among Arab students (27 percentage points vs. 16.5% for Jewish students). Additionally, 35% of Arab students reported that their digital infrastructure hindered their studies, compared to 12% of Jewish students (Tehawkho, Hadad Haj-Yahya & Matar, 2020).

The low level of ICT skills in the Arab community is a barrier to better integration into the labor market and higher education, potentially widening the employment and wage gaps between Arab and Jewish populations in Israel. Beyond skill gaps, there are disparities in Internet access, both in terms of school infrastructure and student ownership of equipment. The education system plays a vital role in reducing socio-economic disparities by providing skills necessary for adult life and improving social mobility (Blanden & Macmillan, 2014).

Local authorities play a key role in addressing socio-economic gaps through school funding and providing public services for all residents. Arab local authorities are in the lower socio-economic quintiles, with 98% of Arab residents in the two lowest quintiles compared to 30% in Jewish authorities. Stronger local authorities can allocate more funds for education and, during the COVID crisis, offer better support for distance learning, such as discounted or loaned devices. However, Arab authorities have lower student expenditure, especially in those within the first and second quintiles in 2019.

ICT skills require continuous learning and access to the Internet and computers. Before COVID-19, disparities in owning a home computer and Internet access existed between Arab and Jewish households, highlighting the digital infrastructure gaps that hindered remote learning for Arab students compared to their Jewish counterparts (Ganayem, 2018).

The percentage of Arab households without complete digital infrastructure is five times higher than that of Jewish households (30% vs. 6%). Additionally, with multiple students in Arab households, the competition for a single computer reduces accessibility. Overall, about 70% of Arab students lack adequate learning infrastructure, compared to 25% of Jewish students, even if digital infrastructure is present in the home (Tehawkho, Hadad Haj-Yahya & Matar, 2020).

In addition to gaps in household digital infrastructure accessibility, there are also quality disparities, particularly in browsing speed. While specific data on infrastructure quality in Arab communities is lacking, a survey found that Arab students faced more challenges during the crisis, with 35% experiencing difficulties compared to 12% of Jewish students (Ganayem, 2018).

In the two lowest income quintiles, there is an average of 0.76 computers per student, and most Arab education students fall into these income brackets, in 2020. The lack of adequate funding for connections, maintenance, and upgrades to

computers further hinders the integration of information technologies. These barriers have led many teachers to hold negative views toward using technology in teaching (Ben-Amram, Aharony, & Bar-Ilan, 2020).

Researchers emphasize the importance of teachers' attitudes, perceptions, and willingness to adopt innovations in education. Studies show that teachers are often reluctant to integrate information technologies due to their beliefs about learning and teaching, as well as the role of technology in their educational methods (Abu-Kaf, Scheijter & Abu-Jaffar, 2019).

Teachers with traditional teaching views often reject or limit the use of information technologies in the classroom, while those with student-centered approaches tend to embrace it. Teachers with innovative ideas and positive experiences integrating technology find it enhances their teaching by offering new strategies and varied activities (Maurer, Schloegl & Dreisiebner, 2017). These teachers report increased engagement and enjoyment in their work due to technology.

A third group of teachers, with moderate views, sees information technologies as helpful tools for processing data, but not as replacements for direct teaching. As their experiences with technology grow, their attitudes become more positive (Mahmood, 2016).

These varying attitudes lead to different patterns of technology adoption. Teachers with positive views are more likely to embrace new ideas and experiment, while those with negative views are slower to adopt technology until its benefits are clearer (Grant & Carolina, 2015).

3. Methodology of research

This qualitative study examined parents' views on integrating Information and Communication Technology (ICT) in secondary schools in Israel's Arab sector, specifically in the northern and southern periphery. The sample consisted of 22 parents of students in grades 10-12, randomly chosen from parents' committee lists from 11 schools (5 in the North, 6 in the South of israel). Data were gathered through semi-structured interviews, focusing on parental attitudes toward ICT use and its effect on learning and school management.

The research question was the following: What are parents' attitudes in Israel's Arab sector toward ICT integration in secondary schools, and how do these attitudes affect its successful implementation in education?

4. Results of Parents' Interviews

The interviews revealed that most parents wanted to participate in courses about how to use school management software to monitor their children's progress. While they recognized the importance of ICT in education, several concerns about traditional values and proper technology use were also mentioned. Many parents felt that while ICT can enhance learning, it cannot replace face-to-face teacher

interaction. They also highlighted issues like unstable Internet connection, limited technology in schools, and difficulty of accessing devices in homes with multiple children. The responses provided valuable insights into ICT integration in students' learning environments.

The first main theme was about the learning environment and student engagement. Parents offered diverse views on ICT's role in student learning and engagement. Most supported ICT for encouraging group work, noting that children collaborate on assignments using computers. One parent from the north mentioned, "Learning is in collaboration with class groups and with the help of computers and the Internet," while another noted, "He studies online with his friends." These examples suggest that ICT plays a key role in improving peer relations and facilitating interaction in learning activities.

The use of ICT among students varies based on their courses of study. Some students used ICT frequently for research and assignments, while others used it less often. For example, a parent from the south mentioned that their son, studying biology, only uses the internet occasionally for computer tasks. In contrast, a parent of a gifted student shared that their son uses the computer frequently for assignments. This suggests that ICT usage depends on the course and students' specific needs, with some requiring more frequent use than others.

Parents described different home learning environments. One parent highlighted a supportive academic atmosphere where their child had free time to study but rarely used the computer. In contrast, another parent from the south mentioned challenges such as household noise and many children but emphasized their commitment to encouraging the use of learning tools to strive for academic excellence.

Parents highlighted various challenges and support systems. Some reported that their children struggled with ICT-based tasks, with one parent from the south noting that their child avoided studying or using the computer for assignments. Others stressed the importance of having supportive tools and environments but acknowledged that motivating their children was difficult, as they had access to resources like computers and the internet but still lacked the drive to complete homework at home, relying instead on school time for these tasks.

The second main theme of research referred to the advantages and disadvantages of ICT in learning. The survey results revealed varied parent opinions on the pros and cons of computerized assignments and distance learning. Some parents highlighted benefits such as increased student interest and motivation. One parent from the north said computerized tasks are more enjoyable and stimulating, breaking routine, while another noted they encourage students to improve grades. The flexibility and convenience of completing tasks at home, with family support, were also seen as advantages.

Some parents raised concerns about the health risks of prolonged screen time. One from the south stated, "It extends the time spent sitting at the computer," while another from the north worried about radiation exposure: "My daughter will

suffer damage from the radiation." A third parent added that extended screen time is "not healthy" and could cause other health problems.

Parents had mixed views on learning via computerized assignments and online platforms. Some praised the efficiency and access to information, saying it "facilitates and speeds up the solution" and helps students "expand and develop their minds." However, concerns were raised about critical thinking. One parent from the north noted that "students do not get used to reading information from books or essential websites" and rely on potentially unreliable peer-provided content. Other parents from the south and north warned of "inconsistency between the requirements matriculation exams and those of computerized tasks and tests."

Parents highlighted technical issues, especially with internet connectivity. One parent from the south said, "There is a problem with the communication network in Israel, especially in Arabic, so this is an obstacle to completing tasks and teaching." Another parent noted, "The Internet is very unstable at home, and sometimes it cuts out, so tasks aren't finished."

Additionally, both northern and southern parents emphasized the importance of face-to-face interaction in learning. One parent from the north argued that "students need personal contact with teachers and classmates" as "connection and interaction between people cannot be replaced." Another parent from the south believed "the most effective method is face-to-face teaching in the classroom." Some parents also feared that online learning could lead to disinterest and loneliness among students.

The responses offered varied perspectives on ICT in education. Some parents viewed it positively, seeing it as essential for preparing students for academic and professional environments. One parent from the south said, "Computerized learning is important because the university uses it, and they must know how to deal with it." However, others preferred a balanced approach, integrating both traditional and digital methods. One parent from the north stated, "I encourage a combination of technology with face-to-face learning and tests."

The third main theme of interviews was about issues related to teacher communication and ICT tools. The interviews revealed varied parent experiences with ICT tools for parent-teacher communication. Key trends included apps for tracking grades, attendance, and messages, as well as the desire for workshops on using these tools. Several parents highlighted apps like "parent feedback," "i-score," and school websites. One parent from the north mentioned, "I can know my son's grades, and everything related to his behavior through the teachers' comments." A parent from the south added, "The app shows notes on lateness, problems, and teacher-parent communication." However, some noted issues with irregular internet access, making these tools less convenient.

Parents primarily communicated with teachers through phone calls, WhatsApp, and apps. The main topics of discussion were updates on their children's performance, often requiring prompt reports. One parent from the south said, "The relationship is only with the class teacher to monitor his educational and academic situation." Another from the north mentioned, "Through WhatsApp or directly with

the educator, she uses the application less because there are no recorded notes." Many parents expressed interest in training to better track their child's progress using apps, with one from the south stating, "I will participate even though I already use the app, but there's more to learn." However, some parents felt no need for further training, like one from the north, who said, "I don't need training because I get along with all the apps, and if there's something unclear, I'll ask and look for answers."

5. Discussion of the results

Parents' perspectives on ICT integration play a crucial role in its effective use, impacting both the home environment and children's engagement with technology. Some parents expressed enthusiasm for ICT, believing it enhances learning by expanding resources and promoting independent learning. They viewed ICT as essential for modern education, aligning with current trends in technology-enhanced learning (Mikelic-Preradivic et al., 2016; Noborimoto & Takahashi, 2021). Parents' involvement in using digital tools can significantly benefit students, supporting their learning both in and out of school through educational apps, websites, and other platforms (Mikelic-Preradivic et al., 2016).

Another concern raised by parents was the digital divide, particularly in homes with limited devices. Many parents noted that not all students have the necessary devices or internet access to fully use ICT at home, exacerbating existing inequalities. Students from low-income families, in particular, struggle to afford the tools needed for effective ICT use (Ganayem, 2018; Tehawkho, Hadad Haj-Yahya & Matar, 2020). Additionally, some parents were concerned that over-reliance on technology in education reduces essential face-to-face interaction and conventional teaching methods. While ICT can aid learning, it should complement, not replace, traditional classroom practices to maintain a balanced educational experience (Avidav-Ungar & Porcush Baruch, 2016).

Parents suggested that schools should involve them more in ICT strategies by offering training sessions to help them use the same digital tools their children use, thus improving their digital literacy to support learning at home (Noborimoto & Takahashi, 2021). Additionally, addressing the digital divide is crucial to ensure equal access for all students. Schools could provide devices to low-income families or collaborate with local governments to improve internet access in underserved areas (Ganayem, 2018; Czerniewicz et al., 2020). Without addressing these issues, ICT's benefits will remain unequal, limiting its overall effectiveness.

The home learning environment plays a key role in ICT integration, as it impacts students' ability to use technology at home. While parents acknowledged that ICT could support independent learning by providing access to materials after school, they also expressed frustration. Digital tools, such as educational apps, can help students interact with content and complete assignments at their own pace (Díaz & Cano, 2019). However, a major issue was the lack of a structured schedule for using ICT at home. Parents noted that children struggled with motivation and self-

discipline outside of school, and many found it difficult to establish routines for effective ICT use due to limited understanding (Noborimoto & Takahashi, 2021).

The study findings highlight the conflict between ICT use and traditional written exams. Parents noted that while ICT tools boosted engagement and creativity, they did not fully prepare children for exams, which require structured formats (Tehawkho, Hadad Haj-Yahya & Matar, 2020). This issue is more pronounced in the Arab sector in Israel, where the digital divide and limited infrastructure, combined with traditional assessment methods, create significant challenges (Tehawkho, Hadad Haj-Yahya, & Matar, 2020; Ganayem, 2018). The findings emphasize the need for hybrid models that integrate digital tools with traditional assessments, including improved infrastructure, modernized methods, and training for teachers and students to effectively use ICT in both learning and evaluation (Czerniewicz et al., 2020).

The digital divide worsens ICT's role in the home learning environment. Some parents noted that unequal access to devices or stable internet connections limits students' ability to engage with digital tools. This lack of infrastructure, especially during remote learning, prevents children from fully benefiting from ICT, leading to inequalities across households (Tehawkho, Hadad Haj-Yahya, & Matar, 2020; Ganayem, 2018). Díaz and Cano (2019) stress that ICT requires a well-managed home environment to be effective, and without proper access and structure, its potential to enhance learning is reduced.

A key finding of the study is that many parents of high school students lack the digital skills needed to support their children's use of ICT for education at home. This aligns with Blau et al. (2019), who stress the need for digital literacy training for parents. Unlike studies of parents of younger children, this research highlights the unique challenges faced by parents of high schoolers due to the complexity of digital platforms and tasks. Cohen (2019) suggests that giving parents access to the same platforms as their children can improve communication and support. These findings underscore the importance of strategies to engage parents in high school students' digital education. Additionally, addressing the digital divide is crucial. Schools must partner with local governments to provide devices and internet access to underserved families. Without closing this gap, ICT's benefits will remain uneven, perpetuating inequalities in education (Czerniewicz et al., 2020; Tehawkho, Hadad Haj-Yahya, & Matar, 2020).

Parents of high school students voiced concerns about excessive reliance on technology and the effects of screen time, offering a unique perspective in this area of research. While some acknowledged the educational benefits of ICT, they stressed the importance of balancing it with traditional methods to develop a well-rounded skill set. Avidav-Ungar and Porcush Baruch (2016) argue that ICT should complement, not replace, face-to-face interactions and hands-on learning. The study also found that parents were particularly concerned about the exposure of adolescents to inappropriate content, which could clash with cultural and religious values. This aligns with Massry-Herzallah and Arar (2019), who warn that technology could disrupt traditional values and reduce social engagement.

These findings are novel in focusing on parents of high school students, an under-researched group, revealing a broader tension in secondary education: balancing digital learning with cultural values. The study emphasizes the need for culturally relevant strategies, including digital safety training for parents and promoting responsible tech use while encouraging cultural engagement. Addressing the digital divide is also crucial for ensuring all students can access ICT at home. Schools must collaborate with local authorities and NGOs to provide devices and internet to students without access. Czerniewicz et al. (2020) stress that without addressing this gap, the benefits of ICT will remain unevenly distributed, impacting educational outcomes (Ganayem, 2018).

Theme 3: Communication Between Parents and Teachers

Parents and teachers play key roles in ICT implementation in schools, requiring effective communication channels. Interviews show that while ICT can improve communication, its success depends on the tools' effectiveness and parents' ability to use them. Some parents appreciated being able to communicate easily with teachers via apps, email, or online platforms, receiving frequent updates on their children's progress. This aligns with Ben-Amram et al. (2021), who note that ICT enhances parent-teacher communication through real-time updates. Parents also noted that ICT allows them to monitor their children's learning and behavior at home, helping address issues promptly (Rodríguez-de-Dios et al., 2018).

Some parents reported challenges in using ICT platforms due to lack of digital skills or knowledge of how to engage with them. They often felt ill-equipped to use these tools effectively, limiting their ability to receive important information. While ICT can improve communication, it depends on parents' digital literacy and access to technology, which is not always available (Cohen, 2019). Gaps in digital skills and infrastructure, as noted by Noborimoto & Takahashi (2021) and Tehawkho et al. (2020), exacerbate the issue. Additionally, while ICT facilitates communication, some parents felt it lacked the personal touch of face-to-face interactions, especially in discussing a child's social and emotional development (Czerniewicz et al., 2020). Parents felt more involved when ICT complemented in-person communication.

To address these issues, schools should help parents become proficient in using ICT for communication, offering tutorials or workshops on using school portals, apps, and emails. Regular parent meetings can also demonstrate how to access information and engage digitally with teachers. Increasing parents' digital literacy will ensure they can stay informed and involved in their children's learning (Mikelic-Preradivic et al., 2016). Additionally, schools should balance ICT communication with traditional methods, as face-to-face meetings allow for more detailed discussions. A mixed communication approach—using ICT for general updates and in-person meetings for detailed discussions—can enhance parental involvement (Avidav-Ungar & Eshet-Alkalai, 2014).

6. Recommendations

This research highlights the importance of involving parents in the ICT integration strategy as secondary users of the school platform. Parents' perceptions of digital education are closely linked to student performance, with parents showing both positive attitudes and concerns about technology's impact on their child's education. In underprivileged Arab communities in Israel, parents expressed interest in using the school's digital platform to track their child's progress, but faced barriers like lack of digital skills, technical issues, and poor communication with teachers. To address these, we recommend that schools create specific programs and roles to encourage parent engagement, such as a dedicated team to serve as a contact point for digital education.

Parents should receive basic technology literacy and digital skills training to use the school platform effectively. The platform's technical features should be tailored to match parents' skill levels, ensuring accessibility. Additionally, schools should host regular events to engage parents with the ICT goals, helping them see the benefits for student performance and future opportunities. Schools must also foster open discussions on child safety and the pros and cons of technology in education, enabling parents to guide their children responsibly. Lastly, schools should allocate resources to address parents' queries and concerns promptly, as their involvement is crucial for successful ICT integration and student performance.

This research emphasizes the need for national and local government investments in improving communications infrastructure in underprivileged areas and address inequalities in school-level technology and ICT adoption. The goal should be to close development gaps and ensure equal access to quality internet, digital equipment, and ICT resources. We recommend that the Ministry of Education and local authorities allocate budgets to bridge these gaps, including funding for digital tools and support for students facing socio-economic challenges. Local leadership is also essential to foster ICT innovation, encouraging programs that promote digital services like health, banking, and education, improving overall technological literacy.

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