

THE ROLE OF PARENTS IN SUPPORTING STUDENT ENGAGEMENT IN DIGITAL LEARNING ENVIRONMENTS

Angela IKONOMOSKA NECHAKOVSKA

Faculty of Philosophy, Institute of Pedagogy, Ss. Cyril and Methodius University in Skopje, Republic of North Macedonia
angela.ikonomoska@fzf.ukim.edu.mk

Vera STOJANOVSKA

Faculty of Philosophy, Institute of Pedagogy, Ss. Cyril and Methodius University in Skopje, Republic of North Macedonia
veras@fzf.ukim.edu.mk

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ABSTRACT:

This paper examines the role of parents in supporting student engagement in digital learning environments. It analyzes how parental involvement, digital competence, and home-school communication influence students' behavioral, emotional, and cognitive engagement in online and hybrid learning. The study highlights that parents increasingly serve as facilitators of technology use, mediators between teachers and students, and organizers of the home learning environment. Their ability to provide technological guidance, structure daily learning routines, and offer emotional and motivational support significantly enhances students' participation, focus, and learning outcomes in digital settings. Insights from contemporary research and experiences in North Macedonia indicate that parental involvement has become a crucial component of effective digital education. The paper emphasizes the need for educational institutions to strengthen collaboration with families and develop strategies that empower parents to engage confidently and effectively in their children's digital learning.

Keywords: *parental involvement, student engagement, digital competence, digital learning environments, home-school collaboration*

Introduction

The rapid development of digital technologies has profoundly reshaped educational systems worldwide, influencing how teaching is delivered, how students interact with content, and how learning is supported at home. The transition toward online and hybrid models during the COVID-19 pandemic accelerated these changes, positioning the home as a central site of learning and expanding the responsibilities traditionally held by schools. In this context, the role of parents shifted significantly as they became facilitators of technology use, organizers of daily learning routines, and key emotional and motivational supports for their children. Student engagement—

encompassing behavioral, emotional, and cognitive dimensions—is a critical determinant of learning outcomes in any educational setting.

However, maintaining engagement in digital environments presents particular challenges, especially for younger learners who depend on adult guidance to structure their learning, manage distractions, and sustain motivation. As a result, parental involvement has emerged as an essential factor influencing students' ability to participate meaningfully and successfully in digital learning.

While the importance of parental support in traditional schooling is well established, its role within technology-mediated environments is less clearly defined and remains underexplored, particularly in contexts where digital competence varies widely among families. The shift toward digital learning has highlighted new demands on parents, including the need to navigate online platforms, ensure access to digital resources, maintain communication with teachers, and support their children's self-regulation skills. These expanded expectations underscore the need to better understand how parents contribute to student engagement in digital settings and what conditions enable them to do so effectively.

This paper addresses these issues by examining the evolving role of parents in supporting student engagement within digital learning environments. It examines essential aspects of parental involvement, the influence of parental digital proficiency, and the methods by which families facilitate students' cognitive, emotional, and behavioral engagement in online learning. By synthesizing recent research and contextual insights from North Macedonia, the paper aims to clarify the mechanisms through which parents influence digital learning experiences and to highlight implications for educational practice and policy.

Purpose and Significance of the study

The purpose of this paper is to examine how parental involvement supports student engagement in digital learning environments. It explores the forms of parental support—technological, academic, emotional, and organizational—that influence students' behavioral, emotional, and cognitive engagement in online and hybrid settings. The significance of this study lies in clarifying the changing role of parents as digital learning becomes more integrated into education. While parental involvement in traditional schooling is well established, its function in technology-mediated contexts remains less clearly defined. By addressing this gap, the study offers insights that can help educators and policymakers strengthen home-school collaboration and create more supportive and equitable digital learning environments.

Theoretical Framework

We are already witnessing that the increased presence of digital technologies is not only transforming the way teaching is conducted and the way students learn, but changes are also occurring in the way parents participate in the academic lives of their children. To understand this

dynamic, three key aspects must be emphasized: student engagement, parental involvement, and digital competence.

Considering the problem separately from the three perspectives, a comprehensive basis for analyzing the relationship between parental roles and student engagement in digital environments is provided. In this context, we refer to the conceptualization of Fredricks et al. (2004), where student engagement is considered as a multidimensional construct consisting of behavioral, emotional, and cognitive components. The behavioral engagement section includes the student's visible participation in learning tasks (presence, effort, and involvement in class activities). On the other hand, there is emotional engagement, which reflects students' feelings in the learning process, including interest, motivation, and sense of belonging. The most important part of acquiring knowledge is considered to be the cognitive engagement of students, which includes active mental investment in what is being learned, i.e., setting goals, applying strategies and self-regulating ongoing learning habits.

In digital environments, maintaining engagement can be challenging, as students themselves are often required to work more independently. When it comes to carrying out activities from home with the support of technology, the importance of the so-called external support of parents is particularly emphasized, which plays a vital role in maintaining the focus and motivation of students (Alamsyah, 2021). Parents' capacity to support their children's learning in digital environments is in turn strongly mediated by their digital competence. Parents with greater knowledge about the use of digital technologies and higher levels of digital competence appear to be better prepared to help their children use digital platforms, assess digital resources, and model responsible environments for technology use. In contrast, the lack of prior knowledge about using technology hinders parents' ability to effectively engage and coordinate students' learning processes (Livingstone et al., 2015). Parental involvement has long been recognized as a key factor influencing student engagement in the learning process, emotional well-being, and achievement of academic goals, which is directly linked to cognitive development. The complex role of parents in facilitating student engagement in digital learning environments can be better understood by consulting well-established theories that provide light on the interplay between parental involvement and student engagement. In this section, we will refer to four well-known theories, through whose prism we build the theoretical framework of this scientific paper:

- **Epstein's Theory of Family-School-Community Partnerships**

This theory places particular emphasis on collaboration between parents, schools, and communities for encouraging student achievement. In the context of digital learning, parents play an important role in building a supportive home environment that complements school-based educational initiatives. Epstein (1995) defines six modes of involvement: parenting, communicating, volunteering, learning at home, making decisions, and working with the community. Each sort of involvement can be tailored to the digital learning environment, where parents can assist their children by creating a conducive learning atmosphere,

maintaining regular communication with teachers, and engaging in school choices regarding digital education. In this context of digital learning, Epstein's six dimensions take on new forms. Parents often act as learning facilitators, helping children navigate digital platforms, manage time, and interpret online instructions correctly. At this stage, they are also emotional supporters who encourage and create a positive climate for learning at home.

- **Hoover-Dempsey and Sandler's Model of Parental Involvement**

This model provides a comprehensive understanding of the factors that influence parental involvement by identifying three key questions that parents most often ask: "Do I think I can help?" (perceived efficacy), "Do I want to help?" (role construction), and "Do I think my help will make a difference?" (outcome expectations). In digital learning environments, parents may face a variety of other challenges that have a certain impact on their perceived efficacy (for example, insufficient knowledge of technology or online learning platforms). Answering the questions, i.e. dealing with the given challenges, includes providing appropriate resources and support through which parents will feel more effective and confident, which will ultimately improve the engagement of students in digital environments (Hoover-Dempsey & Sandler, 1997).

- **Self-Determination Theory (SDT)**

This theory argues that each individual has three basic psychological needs: autonomy, competence, and relatedness. Initially, these needs in children are encouraged by parents. In the context of digital learning environments, parents can support their children's autonomy by encouraging them to set and achieve learning goals, as well as make decisions and plan the learning process itself. Competence on the part of parents can be encouraged by providing resources and giving guidance on the correct use of technology, mastering digital tools and making learning strategies. In this part, relatedness comes through building positive learning environments and effectively using technology to achieve learning outcomes, which means that by satisfying these psychological needs, parents can create supportive environments that promote student engagement and motivation.

- **Self-Regulation Theory**

According to self-regulation theory, individuals may manage their learning by setting goals, assessing their own progress, and adapting tactics to their specific needs. Parental support is essential for helping children develop self-regulation skills, which are especially vital in self-directed digital learning contexts. Parents may assist their children create achievable goals, provide feedback on their progress, and encourage them to reflect on their learning strategies. By encouraging self-regulation, parents can help their children take responsibility for their learning and stay engaged in digital learning environments (Farrell, 2025; Li & Rahman, 2025; Song et al., 2024).

In summary, the reviewed theories collectively illustrate that parental involvement in digital learning environments is a multifaceted construct shaped by digital competence, motivational

support, and active participation in the learning process. Student engagement—behavioral, emotional, and cognitive—depends not only on individual learner characteristics but also on the quality of support provided at home. Parents who possess the confidence and skills to navigate digital tools, maintain communication with teachers, and promote self-regulated learning significantly enhance their children’s ability to participate meaningfully in online and hybrid education. By integrating insights from models of engagement, family–school partnerships, parental involvement, and motivation, this framework provides a comprehensive foundation for understanding how parents influence student success in technology-mediated learning contexts. It also highlights the importance of empowering parents through guidance, resources, and collaboration to ensure that digital learning becomes both equitable and effective.

Parental Roles in Digital Learning Environments

The expansion of digital technologies has significantly redefined what parental involvement means in contemporary education. Traditionally, parents supported learning by attending school meetings, supervising homework, and maintaining communication with teachers. The “learning-at-home” dimension included assisting with tasks, establishing routines, and engaging children in academic discussions. In traditional contexts, parents provided support within a structure created by the school. In digital environments, however, these roles expanded substantially—parents must now assist with digital platforms, troubleshoot technology, monitor online safety, and organize the entire learning routine at home. This shift demonstrates that parents are no longer peripheral to learning; they have become central co-facilitators in technology-mediated education. However, when learning shifted into home-based digital environments—particularly during periods of distance learning—these forms of involvement required reconceptualization. Parents were not only supervisors but also mediators of communication, facilitators of technology use, coordinators of learning routines, and supporters of self-regulated learning.

Research consistently shows that active parental involvement enhances students’ motivation, engagement, and learning outcomes (Goodall & Montgomery, 2014). It is necessary to find a balance between providing excessive assistance with assigned tasks and neglecting or postponing responsibilities to the child. The first extreme causes a negative effect of the student’s dependence on the parent, phlegmatic behavior, loss of interest, stagnation in knowledge and motivation for self-improvement. While the other extreme causes disinterest and placing other priorities before learning, which is reflected in the student’s failure and mental exclusion in the educational process. These changes highlight that learning in digital environments not only repositions students as self-regulated learners, but also places parents in active, multidimensional roles that directly impact learning success. This watershed role of parental involvement began during periods of distance learning (during the COVID-19 pandemic), where parents became co-educators, fully responsible for structuring the learning environment and facilitating access to digital resources. In other words, parental involvement extends beyond traditional roles, bridging the gap between teachers and

students in the online classroom (Dong et al., 2020; Garbe et al., 2020). We realize that we are actually viewing today’s involvement of parents in digital environments through the prism of their involvement during distance learning and are gradually developing a picture of the new role they find themselves in today.

Recent empirical research confirms that parental support for digital learning is complex and strongly influenced by parents’ digital competence. A study conducted across 19 countries showed that parents’ confidence in using technology was one of the strongest predictors of their willingness to support home-based digital learning, even when socioeconomic factors were considered (Taniguchi, 2023). From the perspective of teachers in North Macedonia, data from Ikonomoska (2022) demonstrate that parents primarily acted as communicators and mediators during distance learning. The highest percentage of parental activity involved sending comments on students’ work (26.49%), indicating that parents often served as channels of feedback between children and teachers. Another significant form of involvement was informing teachers about students’ interests and affinities (24.44%), supporting the personalization of teaching—an increasingly important element in digital education. Parents also frequently monitored digital learning resources (22.79%), reflecting responsibility for maintaining a safe and supportive digital environment, consistent with Epstein’s “learning at home” dimension. Online parent meetings (19.51%) further illustrate how communication practices adapted to virtual formats, while the high level of parental availability (70.24%) confirms their readiness to collaborate during challenging conditions. Although these roles emerged during distance learning, they remain relevant in contemporary digital settings.

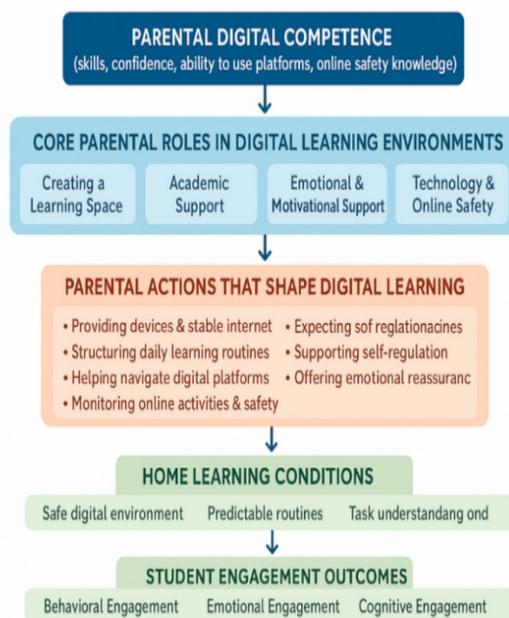


Figure 1. Integrated model of parental roles, actions, and student engagement in digital learning environments

Parents now frequently act as facilitators of technology-mediated learning by helping children navigate digital platforms, manage time, maintain focus, and practice responsible digital behavior. They play a central role in establishing daily routines, supporting self-regulated learning

strategies, and reinforcing motivation—factors closely tied to behavioral, emotional, and cognitive engagement in digital environments.

Below, we will highlight some of the essential roles of parents in supporting their children's engagement in virtual and hybrid learning environments:

- **Creating a Supportive Learning Environment**

Parents have an important part in creating a suitable learning environment at home. This entails designing a dedicated, quiet, and comfortable place along with the required equipment and resources. In this context, providing technological support, including reliable access to technology, is essential. Parents need to ensure that their children have access to the necessary devices and a stable internet network (Knopik et al., 2021).

- **Academic Support**

Monitoring academic achievement and offering feedback might help students stay on the right path. Parents can help their children by setting reasonable goals, recognizing accomplishments, and having a positive attitude about learning in digital learning environments, parents often need to take a more active role, especially for younger students who may have difficulty learning independently. Effective communication with teachers is key to keeping parents informed about their child's learning outcomes, in line with the curriculum (Proff et al., 2025).

- **Emotional and motivational support**

Parents should be the first to offer encouragement, stability, and security (necessary factors for maintaining emotional and cognitive engagement). This type of support maintains a sense of belonging and persistence among students in the learning process in digital environments.

- **Digital literacy and competence**

In these circumstances, parental digital competence emerges as a critical element in determining how well parents can support their children's learning. Parents who understand digital technologies and learning platforms are more equipped to engage with teachers, monitor student progress, and provide timely assistance with online activities. In contrast, a lack of digital literacy can cause challenges to students' motivation, engagement, and learning continuity. Parents can teach their children how to use digital tools effectively, conduct online research, and communicate safely online. This also highlights the importance of parents' confidence in using technology, which is largely linked to their ability to support learning in digital environments. This leads us to contemporary perspectives on digitally mediated parental involvement, which emphasize that parents' technological skills, attitudes, and approaches directly shape their capacity to engage in meaningful support within a digital educational environment.

Conclusion and Recommendations

The evolution of education toward digital learning environments has significantly reshaped the relationship between schools, families, and students. In this context, the role of parents extends far beyond traditional supervision and now encompasses technological support, emotional stability, and the creation of a structured home environment that encourages effective engagement. Based on the theoretical perspectives discussed, parental involvement in digital learning emerges as a multidimensional construct influenced by internal factors such as digital competence, confidence in technology use, and willingness to collaborate with teachers.

Parents who demonstrate these capacities play a key role in strengthening students' behavioral, emotional, and cognitive engagement. By bridging the gap between school and home, they help ensure continuity in learning—especially during periods of disruption, as demonstrated during the COVID-19 pandemic. However, the increasingly complex expectations placed upon parents highlight the need for schools and educational institutions to offer clearer guidance, supportive resources, and ongoing communication.

Overall, strengthening parental involvement in digital learning should be viewed not as an optional addition but as a fundamental component of contemporary education. As technology continues to shape pedagogical practice, strong partnerships between teachers, parents, students, and policymakers will remain essential for ensuring equitable, inclusive, and high-quality learning environments.

To strengthen the role of parents in encouraging student engagement in digital learning environments, we recommend the following measures:

- **Develop structured digital competence programs for parents** - Schools and educational institutions should organize regular trainings and workshops focused on using digital tools, online safety, and learning management platforms. Improved digital literacy will increase parents' confidence and ability to support learning at home.
- **Strengthen communication between teachers and parents** - Establishing consistent digital communication channels—such as scheduled online meetings, progress briefings, and timely feedback—will ensure that parents remain informed and able to respond to students' needs.
- **Promote inclusive practices and reduce digital inequalities** - Competent institutions and schools should adopt strategies that ensure equal access to devices, internet connectivity, and technical support, particularly for families with limited resources
- **Provide clear guidelines for parental involvement** - Schools should offer practical instructions outlining what types of parental support are appropriate in digital learning contexts to avoid both over-involvement and disengagement.
- **Encourage collaboration through school–family initiatives** - Parent clubs, digital literacy communities, or collaborative workshops can foster continuous dialogue and strengthen the partnership between educators and families.

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