Digital Rights and Early Childhood Education:
A Legal Perspective*

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Abstract

Digital rights refer to the freedoms and protections individuals, including children, are entitled to in the digital environment. In an era of rapid digitalisation, ensuring these rights, especially within early childhood education, has become increasingly significant. Children are active participants in the digital world, and their rights to safely access, use, and interact with digital content must be viewed from educational and legal perspectives. Core concerns include safeguarding children's presence in digital spaces, protecting their data, and ensuring equitable access to appropriate digital resources. In this regard, Digital Rights Management (DRM) systems play a vital role in regulating access and ensuring content protection, while emerging technologies such as blockchain enhance transparency and security in copyright enforcement. Access to digital content is central to children's learning and development, making it a public responsibility to protect these rights through sound policy and regulation. At the same time, digital engagement brings potential risks, such as digital addiction, which can adversely impact children's cognitive, emotional, and social development. Research indicates that familial, environmental, and educational factors often influence this addiction. Thus, parents and educators play a critical role in creating a safe and balanced digital experience for children. Their awareness, supervision, and attitude towards digital tools shape how children navigate online platforms. Therefore, stakeholders—governments, educators, and families alike—must collaborate in creating frameworks that uphold children's digital rights and promote responsible digital citizenship from an early age.

Keywords: Early Childhood Education; Digital Rights; Legal Perspective

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A. INTRODUCTION

Digital rights cover individuals' rights in the digital environment and the regulations regarding protecting these rights. In this context, the definition of digital rights is critical to ensure that children can exist safely in the digital world. Children, especially in early childhood, require special attention to issues such as access to digital content and the use and protection of this content. Digital rights also include children's interactions on digital games, social media and other digital platforms (Erdoğan, 2019; Akçay, 2024). The definition of digital rights also includes elements such as individuals' access to digital content and the sharing and protection of this content. Children's digital rights are essential in their education processes and social development. Parents and educators must be conscious of the risks children may encounter in the digital environment. For example, digital game addiction is a condition that can negatively affect children's development, and therefore, parents need to organise their children's playtime (Baran & Sağlam, 2023; Aydemir, 2022; Arslan, 2022). Establishing a balance between the positive and negative effects of digital games is a critical factor for the healthy development of children. (Yiğit & Alat, 2022; Mehmet, 2023)

Individuals' right to access digital content indicates that the internet should be considered an essential service. In this context, ensuring children have access to digital content during their education will enrich their learning experiences. The right to access is also critical to reducing the digital divide, as inequalities in access to digital content between different socioeconomic groups can threaten equal opportunities in education. Digital rights also encompass individuals' freedom to express themselves in digital environments. In this context, children's rights to share and express their thoughts on digital platforms contribute to their social development. However, protection against harmful content that children may encounter while using these rights should also be provided. Another critical dimension of digital rights is the development of digital literacy skills. Children's ability to make sense of digital content, think critically, and use it safely will enable them to become more conscious in the digital world. Educators and parents must provide children with digital literacy training in this context.

B. METHODS

The research method used in this article is qualitative. This study relies on a literature approach and a legal approach (normative juridical) to examine the issues of early childhood digital rights in the context of education and legal regulation. The literature review reviews various library sources such as books,

scientific journals, research reports, and relevant policy documents. Meanwhile, the legal approach examines legal norms for protecting children's rights in the digital realm, including international conventions, national laws, and legal principles related to children's human rights and personal data protection. The study aims to provide an in-depth conceptual and normative analysis through these two approaches.

C. RESULTS AND DISCUSSION

1. Redefining Early Childhood Education in the Digital Age

With digitalisation, children's growth and development environments have undergone radical changes. It can be said that children, whose interaction with technological tools has increased, have begun to adapt to different learning and communication styles. The digital age requires children to have academic knowledge and skills such as critical thinking, problem-solving, creativity, communication and digital literacy. Traditional education methods may be unable to keep up with the dynamics of the digital age. Education systems can make learning experiences more effective and engaging by using the opportunities offered by technology. Redefining early childhood education in the digital age is critical in understanding how education systems and teaching methods have evolved under the influence of digital technologies. Digitalisation significantly affects children's learning processes, social interactions and development. In this context, integrating digital tools and resources in early childhood education offers new opportunities to support children's cognitive and social development.

Digital tools can be used to enrich teaching methods in early childhood education. For example, interactive applications and games encourage children's active participation in learning processes while also helping them develop problem-solving skills (Bayar, 2023). Such digital resources increase children's sense of discovery, making learning experiences more fun and effective (Yiğit & Uzun, 2022). In addition, teachers' knowledge of digital games and applications allows children to use these tools more efficiently (Yiğit & Alat, 2022). Developing children's digital literacy skills has become an essential part of the education system in the digital age. Digital literacy includes children's skills in making sense of digital content, thinking critically, and using it safely. In this context, educators and parents providing digital literacy education to children will enable them to become more conscious individuals in the digital world

(Kardeş, 2020). In addition, children need to be made aware of the adverse effects of digital content. (Nazik & Çetin, 2019)

Integrating technology into early childhood education can enhance learning experiences, encourage engagement, and support the development of basic skills in young children. However, it also presents challenges educators must overcome to ensure effective implementation. One of the key benefits of technology in early childhood education is its ability to enhance learning experiences. Research shows that using information and communication technology (ICT) makes it easier for teachers to present learning materials effectively, increases teaching efficiency, and improves children's overall quality of learning outcomes (Sum, 2024). Digital tools such as interactive applications and educational games can increase children's interest in learning, making educational activities more engaging and fun. For example, computer-based learning media have positively impacted early learners' counting abilities and literacy skills. (Ayuni & Setiawati, 2019)

Integrating digital technologies into play-based learning is another critical aspect of early childhood education. Digital game content can contribute to aligning technology use with the principles of play-based learning that underpin early childhood education (Bird & Edwards, 2014). Children learn to use technologies through play, which supports their cognitive development and enhances their social skills as they interact with their peers (Sutiyono et al., 2022). This approach highlights the importance of educators carefully incorporating technology into the educational process to encourage children's creativity, curiosity, and collaboration (Zomer & Kay, 2018). The successful integration of digital games in this process largely depends on the competence of educators. Studies have shown that when teachers engage in activities that directly engage children using digital technologies, children feel happier and more confident (Stepić, 2022). However, ongoing professional development is also essential to equip educators with the skills and knowledge necessary to effectively use technology in their teaching practices. Research shows that educators' media competence significantly impacts technology integration into early childhood education. (Pölzl-Stefanec, 2021)

Despite its potential benefits, there are also challenges associated with the use of technology in early childhood education. Some educators have expressed concerns about the suitability of digital media for young children, questioning its value in promoting meaningful learning experiences (Vidal-Hall et al., 2020). In addition, the rapid pace of technological advancement can overwhelm educators and create difficulties in coping with new tools and methods (Alam, 2023).

Moreover, the COVID-19 pandemic has accelerated the shift towards online learning and raised different questions about the effectiveness of digital education in early childhood settings (Dong et al., 2020; Asim & Farooq, 2021). Digital literacy in early childhood helps children understand their interactions with media. However, it is also essential to consider the adverse effects of digital media content on children, which should be addressed with educational institutions and families. (Kardeş, 2020)

The impacts of digital technologies in early childhood education are not only at the individual level but also encompass the physical design of educational environments. Digitalisation affects the organisation of educational spaces, and in this process, it is necessary to harmonise children's increasing screen time with physical learning environments (Deval, 2024; Anggraeni & Listiana, 2023). This situation requires educators to use digital tools effectively. Teachers can develop more effective methods using digital tools (Okur & Akçay, 2021). Integrating such technologies into children's learning processes helps them develop creative thinking skills (Vitoulis, 2022). However, Ogegbo and Aina's research shows that many early childhood educators have insufficient skills in using technology effectively (Ogegbo & Aina, 2022). This situation reveals that educators need to receive more training and support in the use of technology. Technology integration in early childhood education is vital in improving children's learning experiences. Digital games effectively develop children's technology use skills, and the importance of game-based learning emerges in this process (Bird & Edwards, 2014). In addition, Sum (2024) reveals that information and communication technologies (ICT) increase teachers' ability to present course materials and improve the quality of learning in early childhood education. This shows that teachers' attitudes towards using technology have also developed positively and that teachers firmly believe in the necessity of using technology. (Kara & Çağıltay, 2017)

There are also some concerns about the use of technology in early childhood education. Zabatiero and others state that safety issues in children's interactions with the internet are frequently discussed among families and educators, but online safety education in early childhood education is limited (Zabatiero et al., 2018). Mantilla and Edwards emphasise that digital technologies enrich children's play experiences, but ecological factors must also be considered (Mantilla & Edwards, 2019). In this context, educators must guide children's interactions with technology and provide a safe learning environment.

2. Digital Literacy and Critical Thinking

The components of digital literacy include various elements aimed at improving children's ability to access and use information and individuals' ability to use digital content effectively. The components of digital literacy provide essential data on children's interactions with digital media. From this perspective, it is necessary to increase children's digital literacy awareness (Dursun & Çilingir, 2023). In addition, developing digital literacy skills also supports children's critical thinking skills. Many studies are showing that digital literacy contributes to the personal development of individuals and can be used to solve daily life problems (Cintamulya et al., 2023; Ünal & Korkmaz, 2023; Tran & Tran, 2023), plays a vital role in developing children's analytical thinking skills (Kurniawan et al., 2023; Xu et al, 2023), and improves their social skills. (Plowman & McPake, 2013)

Critical thinking is directly related to digital literacy. Children's ability to analyze and evaluate digital content improves their critical thinking skills. Karaboğa examines the effects of digital media literacy on family relationships and child development, emphasizing that parents' digital literacy levels play an essential role in children's development (Karaboğa, 2019). In this context, parents' digital media literacy helps their children better evaluate media content.

Developing digital literacy and critical thinking skills is also important in educational environments. Digital literacy skills have become even more crucial with the digitalization in education (Pala & Başıbüyük, 2020). In this respect, educators need to develop students' critical thinking skills using digital tools. Digital literacy helps children develop their skills in making sense of digital content and interacting with it. The importance of digital literacy in early childhood lies in ensuring that children become aware of media literacy. In this context, teachers and parents providing digital literacy education to children will contribute to them becoming more conscious individuals in the digital world (Dursun & Çilingir, 2023; Kardeş, 2020). In addition, children's right to access digital content plays a vital role in their educational processes and social development. (Yaman et al., 2019; Biricik, 2022)

3. Children's Right to Participate in the Digital Environment

The rapid spread of digital technologies has made it essential for children to access the digital world and to exist as rights-holders in this environment. Children's right to participate in the digital environment is directly related to the United Nations Convention on the Rights of the Child (UNICEF, 2025). These rights cover children's fundamental rights, including access to information,

freedom of expression, online participation and privacy. However, securing children's right to participate in the digital environment brings significant risks and various opportunities. The United Nations Convention on the Rights of the Child guarantees children's right to express their views (Article 12), the right to access information (Article 13), and the right to benefit from media content (Article 17). The digital environment offers a unique space for the exercise of these rights. Children can access educational materials, engage in social interactions and be involved in social issues through digital platforms (Livingstone & Third, 2017). In addition, children's active participation in the digital world is critical for democratic participation and social equality. (OECD, 2021)

Children's digital participation rights should also be addressed socially and culturally. Establishing a standard on how digital technologies can be used effectively in early childhood education is essential regarding the nature of the use (Bird & Edwards, 2014). This standard supports children's learning through digital games and encourages them to participate actively in the digital world. In addition, Huber et al. examine how parents guide their children's media use and their effects on this process (Huber et al., 2018). Providing a supportive environment for children's interactions with digital media is critical for realising children's digital participation rights. Recognising children as rights holders in the digital world enables them to participate actively. (Third, 2019)

4. Risks Children Face in the Digital Environment and Digital Inequality

The proliferation of digital technologies offers many opportunities for children's education and social interaction, but also creates various risks and inequalities. Children's likelihood of encountering risks such as digital addiction, cyberbullying, and privacy violations increases, and digital inequality negatively affects children from families with low socioeconomic status.

Digital addiction is a condition that occurs when children spend excessive time in digital environments. During the pandemic, restricting children's opportunities to play outside has caused them to turn to digital games, bringing some adverse effects. During this period, it has been observed that children's excessive exposure to technology causes game addiction and negatively affects their academic success (Dağ et al., 2021; Hradova et al., 2021; Yiğit & Uzun, 2022). In addition, such addictions can negatively affect children's social skills, physical activities, and general health.

One of the most critical risks that children face in the digital environment is cyberbullying. Cyberbullying refers to children being targeted by their peers on social media platforms (Kowalski et al., 2014), and this can negatively affect children's psychological health, causing anxiety disorders, low self-esteem, and suicidal thoughts (Tokunaga, 2010). Especially on social media platforms, children can be exposed to peer bullying. Many studies have shown that such negative experiences that children are exposed to in the digital environment can affect their psychological health and social relationships. (Livingstone & Third, 2017; Macaulay et al., 2019; Şen & Doğan, 2021)

Other risks that children face in the digital environment can be expressed as online harassment and exposure to inappropriate content. Online harassment is the encounter of children with unwanted and threatening messages, stalking or sexually explicit requests in the digital environment. Social media platforms and online games are widespread areas where such behaviours occur (Livingstone et al., 2018). Online harassment can damage children's sense of security and cause feelings of fear and insecurity. In the long term, it can cause children to withdraw from the digital environment completely or lose their trust in technology. Inappropriate content refers to materials that are not appropriate for children's age and development level (such as violence, sexual content, and drug use). Children can access this content through social media, video platforms or games. Children exposed to inappropriate content may exhibit emotional reactions such as fear, anxiety and confusion. In addition, normalizing this content can cause children to develop unhealthy behaviours. (Byron, 2008)

Digital inequality refers to the differences in children's access to digital environments. Children from families with low socioeconomic status may have difficulties accessing digital resources. Parents' digital literacy levels are essential in determining children's experience in the digital world. Parents' awareness of digital media can enable children to participate in these environments more safely and effectively. Many studies have shown that digital inequalities cause adverse outcomes in children. (Kaya et al., 2018; Hof et al., 2020)

5. Children's Digital Rights: Legal and Ethical Regulations

Digital rights include children's rights, such as a safe presence in the digital environment, access to information, freedom of expression, and participation in digital content. The protection of these rights is essential for children to be able to take part in the digital world in a healthy way. From a legal perspective, children's digital rights are directly related to the rights in the United Nations Convention on the Rights of the Child. This convention includes many rights,

including children's digital rights. Digital rights include children's rights, such as a safe presence in the digital environment, access to information, freedom of expression, and participation in digital content. In this context, protecting children's digital rights is very important, both legally and ethically. From a legal perspective, Article 17 of the United Nations Convention on the Rights of the Child guarantees children's right to access information. This article stipulates that states should take the necessary measures to ensure children's access to media and information sources. It is stated that states should review their media and communication policies to protect children's rights in the digital environment. (Livingstone et al., 2023)

It is also stated that effective laws should be created to reduce the risks children face in the digital environment. Implementing children's fundamental human rights, such as the right to access information, freedom of expression, privacy, security, and participation on digital platforms, plays a vital role in their education and development processes (Livingstone & Third, 2017; Lupton & Williamson, 2017). Parents' use of digital technology can affect children's orientation to digital games, violating children's digital rights. From an ethical perspective, protecting children's digital rights is the responsibility of parents and educators. The duration of children's exposure to digital content and its quality are essential in meeting their developmental needs. Parents and educators must ensure children have access to appropriate content by observing their digital rights in this context. In addition, proposals for a comprehensive "Children's Digital Rights Law" have been prepared to protect children's digital rights (Román-Urrestarazu et al., 2022). Such legal regulations aim to protect children against the risks they face in the digital environment and to secure their rights.

Ethical issues arise regarding the processing and storage of children's data. For example, online platforms may use children's data for commercial purposes. This violates children's privacy rights (Lievens et al., 2018). In addition, the creation of such digital divides results in economic and geographical disadvantages, preventing children from fully benefiting from their digital rights. This should be addressed as an ethical and social issue (Selwyn, 2004). From a moral perspective, protecting children's digital rights is the responsibility of parents and educators. The opportunities cyberspace offers regarding children's education, cultural and ethical development, and the necessity of ensuring appropriate children's rights should not be overlooked (Mammadrzali, 2020). Digital inequality constitutes a significant obstacle to implementing children's digital rights. Children from families with low socioeconomic status, in particular, may have difficulties accessing digital resources, which leads to

violating their digital rights (Garmendia & Karrera, 2019). However, in the digital world, children's right to express their views and participate in decision-making processes can often be limited under the supervision of adults. This may also require balancing children's autonomy and adult guidance. (Livingstone et al., 2018)

In Turkey, children's digital rights are directly related to Article 17 of the United Nations Convention on the Rights of the Child. This article guarantees children's right to access information and requires states to take the necessary measures to protect these rights. Various laws and regulations in Turkey defend digital rights. For example, the Personal Data Protection Law, which entered into force in 2016, stands out as a critical regulation for protecting children's data (Daver, 2021). This law aims to reduce the risks that children may be exposed to in the digital environment.

Law No. 5651 on the "Regulation of Publications Made on the Internet and Combating Crimes Committed Through These Publications", enacted in 2007, is an essential regulation for protecting children in the online environment in Turkey. This law aims to prevent harmful content and safeguard against abuse and inappropriate content targeting children (Legislation Information System, 2025a). Law No. 6698 on the Protection of Personal Data, enacted in 2016, forms the basis of data protection regulations in Turkey. This law is essential in protecting children's personal information on digital platforms. It mainly requires protecting children's privacy rights. (Legislation Information System, 2025b)

In addition, within the scope of legal and ethical regulations regarding children's digital rights, the Ministry of National Education has developed various policies regarding using digital technologies in education and ensuring children's online safety. It has also supported children's right to access information by providing a secure digital platform on the Education Informatics Network (EBA). In addition, curricula and guidance studies are being carried out to increase children's cybersecurity awareness.

Parents' management of their children's interactions with digital games and content is critical in early childhood. Parents' awareness of digital parenting is essential to ensure that children exist safely in the digital world (Manap & Durmuş, 2020). Parents' observation of their children's digital gaming habits and guidance of these habits will support the healthy development of children. (Yiğit & Alat, 2022)

6. Solution Suggestions for Digital Rights Violations in Early Childhood

Digital rights violations in early childhood are an essential issue in terms of the various threats that children face in the digital world and the precautions that should be taken against these threats. In this context, situations such as unauthorized processing of children's data, cyberbullying and exposure to inappropriate content stand out as digital rights violations. Solution suggestions for these violations can be expressed as follows.

Raising parents' awareness about digital rights is critical in protecting children's digital rights. Parent education programs should provide information about the risks children may encounter in the digital world and how they can be protected from them (Karadağ & Tuncay, 2022). Parents need to be aware of the duration of their children's exposure to digital content and the nature of this content to protect children's digital rights.

Developing educational programs on digital rights and safe internet use in preschool education institutions and integrating them into education can contribute to achieving positive results in this regard. These programs can help children understand and defend their digital rights (Özgür & Özkul, 2023). In addition, increasing teachers' digital literacy levels can be considered effective in protecting children's digital rights.

In Turkey, it is essential to implement existing laws to protect children's data and make new regulations when necessary. Within the Personal Data Protection Law (PDPL) framework, special provisions can be introduced for processing children's data. In addition, clearly defining the obligations of digital platforms to protect children's data can also contribute to the process. (Serin, 2019)

Digital content filtering systems can be considered an effective option to prevent children from being exposed to inappropriate content while accessing the internet. These systems can help block harmful content while ensuring children can access appropriate content for their age. In addition, parents can be encouraged to use security software on their children's devices. Social media and digital platforms should take more responsibility to ensure the safety of children. These platforms should develop effective mechanisms to provide children with content appropriate for their age and to prevent situations such as cyberbullying. In addition, effective reporting systems can be created to quickly remove content that violates children's digital rights.

By creating artificial intelligence-supported early warning systems, children can be prevented from accessing inappropriate content. National laws

and international collaborations can contribute to more effectively managing this process. Education campaigns should be organized to raise public awareness of digital rights violations. These campaigns should aim to provide information on children's digital rights, parental responsibilities, and digital security. In addition, media literacy education can help children critically evaluate digital content. (Karadağ & Tuncay, 2022)

National campaigns can be organized to raise awareness about children's digital rights. These campaigns can be carried out with the media, civil society organisations, and the state to support them in reaching society. Raising awareness about online security and privacy issues can help prevent possible adverse effects.

D. CONCLUSION

Redefining early childhood education in the digital age is critical to understanding how educational systems and teaching methods evolve under the influence of digital technologies. While integrating digital tools enriches children's learning processes, the importance of digital literacy is also increasing. The roles of parents and educators in this process are vital to ensure that children exist safely in the digital world. Restructuring educational programs has become an inevitable necessity to meet the demands of the digital age. Technology profoundly impacts early childhood education, providing opportunities to enhance learning experiences, support play-based learning, and develop essential skills in young children. However, successful technology integration requires skilled educators prepared to overcome the challenges and obstacles associated with its use.

Continued professional development and thoughtful application of digital tools are vital to maximizing the benefits of technology in early childhood education. Policymakers and researchers must collaborate to create effective strategies for integrating technology into early childhood learning environments as the field evolves. The impact of technology on early childhood education presents both opportunities and challenges. Educators, parents and policymakers need to understand the role of technology in education and prioritize children's safety in this process. While effective use of technology can enrich children's learning experiences, it should also meet their developmental needs.

Digital rights require a legal and social responsibility to ensure individuals can exist safely in the digital world. Parents, educators and states should continue

their efforts to protect and develop children's digital rights. In this context, digital literacy education and conscious media use are critical for children to have a healthy digital experience. The protection of digital rights provides a guarantee against the risks that children may encounter in the digital world. Therefore, the definition and scope of digital rights are increasingly gaining importance in today's societies.

Digital literacy and critical thinking are fundamental components of the education system. Developing these skills early will help children take a healthy place in the digital world and gain critical thinking skills. In addition, children's right to participate in the digital environment should be ensured with the cooperation of parents, educators and other stakeholders of society. Increasing parents' digital literacy levels, developing educators' skills to use digital technologies effectively, and supporting children's digital experiences are essential steps in this process. In this way, children can take part in the digital world healthily and safely. The risks children face in the digital environment and digital inequality are essential issues that educators, parents, and policymakers should consider. Awareness-raising and educational activities should be carried out to protect children from risks such as digital addiction and cyberbullying. In addition, it is essential to increase families' digital literacy levels and ensure children's access to digital resources to reduce digital inequality. Children's digital rights are an important issue that needs to be addressed with legal and ethical dimensions. Parents, educators, and policymakers must take a conscious approach to protect children's digital rights. In this way, children can take part in the digital world healthily and safely.

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