



From Risks to Resilience

Why Digital Citizenship Matters in K–12 Education

Executive Summary

Digital technology has transformed the way students learn, connect, and express themselves, offering remarkable opportunities for creativity and collaboration on a global scale. From adaptive learning tools that personalize education to platforms that empower students to share their voices, the digital age holds immense promise for today's youth. However, alongside these benefits come significant challenges. Cyberbullying, misinformation, privacy concerns, and the psychological toll of constant connectivity threaten students' well-being and ability to thrive in an increasingly interconnected world. The same tools that inspire and educate can also harm and exploit if students lack the skills to navigate them safely and ethically.

The importance of digital citizenship education has never been more apparent. By equipping students with media literacy, ethical decision-making, emotional resilience, and digital safety skills, these programs empower them to reap the benefits of technology while mitigating its risks. Beyond technical knowledge, digital citizenship strengthens critical thinking, empathy, and responsibility, preparing students to make informed decisions and contribute meaningfully to their communities. With the rapid evolution of technologies like artificial intelligence and immersive virtual environments, it is imperative that students are not only prepared to adapt but are also equipped to lead in a dynamic digital landscape.

This work is not just the responsibility of educators. Corporations have a vital role in supporting digital citizenship

education, working alongside educators to prepare students for the challenges of the digital age. By partnering in these efforts, companies help to shape a generation of informed and ethical digital citizens while reinforcing their leadership in addressing critical societal challenges. Investing in these initiatives also strengthens brand trust, mitigates risks like cybersecurity threats, and demonstrates a forward-thinking commitment to fostering a safer, smarter digital future.

By prioritizing digital citizenship education, we can create a future where technology empowers rather than endangers, and where students are prepared to navigate the challenges of the digital world with confidence and integrity. Together, we can build a connected world where every student has the tools to thrive and contribute to a brighter, more inclusive tomorrow.

Introduction

Digital technology is reshaping every facet of life, offering today's students unparalleled opportunities for learning, connection, and self-expression. This generation is growing up in an era where the world's knowledge is a click away, collaboration across continents happens in real time, and creativity flourishes through platforms that allow them to share ideas, art, and innovations on a global stage. From adaptive learning tools that tailor educational experiences to each child's needs to social media platforms that connect them with peers and global causes, the digital landscape is full of promise. It empowers students to explore new frontiers of knowledge, engage in civic life, and build skills essential for future careers in a technology-rich world.

Yet, this digital reality also presents significant challenges. Prolonged screen time and unmoderated digital engagement can contribute to difficulties in managing emotions, focusing attention, and maintaining healthy offline relationships. Many students struggle to differentiate credible information from falsehoods, highlighting the need for stronger media literacy skills. Furthermore, the same platforms that foster connection and learning can also expose users to harmful content, online predators, and the risks of curated social media realities, raising concerns about digital safety. Finally, navigating this online world leaves behind a digital footprint, making it essential to teach students how to be responsible with personal data and technology.

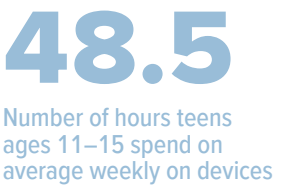
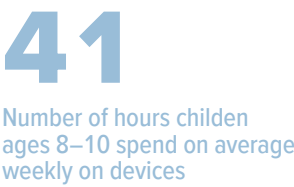
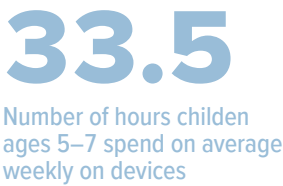
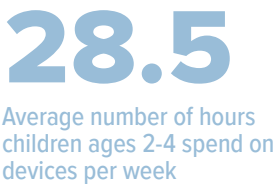
This duality of promise and peril underscores the urgent need to prepare students to navigate the complexities of the digital age. By fostering the skills to use technology critically, ethically, and intentionally, we can ensure that this generation not only reaps the benefits of the digital revolution but also develops the resilience and wisdom to overcome its risks. Preparing students for this reality is not just an educational responsibility—it is a societal imperative.

The Digital World: Risks and Realities for Youth

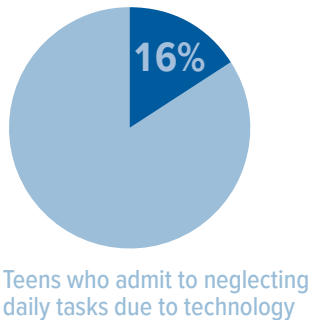
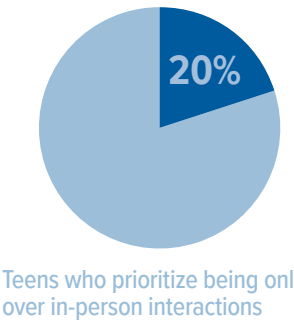
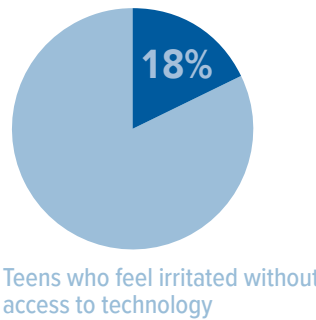
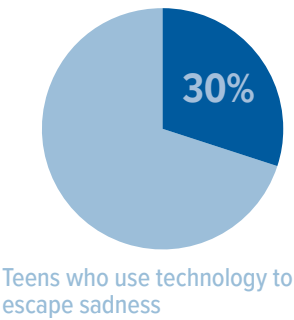
Digital technology dominates young people’s lives, and usage trends signify the growing national dependency. **Verizon’s 2023 Consumer Connection Report** showed a 129% increase in total mobile network traffic over the past five years, with 47% of consumer mobile traffic devoted to video in the second half of 2023.¹ A 2024 Dubit Trends study found children ages 2–4 spend an average of 28.5 hours weekly on devices, with their time split between watching videos (20 hours), playing games (5 hours), and learning (3.5 hours). Device usage increases with age, as children ages 5–7 average 33.5 hours, those aged 8–10 average 41 hours, and 11–15-year-olds spend 48.5 hours weekly on devices.² One-third of teens are online “almost constantly.” YouTube (93%), TikTok (63%), Snapchat (60%), and Instagram (59%) dominate their online activity. Across the 11–17 age range, teens spend an average of 4.5 hours daily on devices, with some exceeding 16 hours. The median teen receives 237 notifications and checks their phone 51 times daily.³

The use of Generative AI is also rising. Seven in ten teens ages 13–18 use generative AI, with over half using chatbots or search tools, 34% using image generators, and 22% using video generators. Teens report using AI for homework help (53%), to stave off boredom (42%), for language translation (41%), idea

brainstorming (38%), writing (35%), creating images or videos or summarizing content (33%).⁴



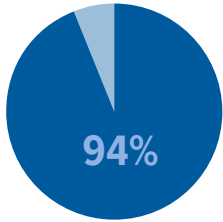
While technology provides utility and benefits, teens also report its downsides. For instance, 30% use technology to escape sadness, 18% feel irritated without access, and 20% prioritize being online over in-person interactions. Sixteen percent admit to neglecting daily tasks due to technology. These trends intensify as teens age.⁵ Social media often amplifies these impacts, with 42% of teens stating that they struggle to control usage. Nearly 40% say it reduces their attention span, and 34% say it disrupts sleep. Stress and anxiety affect 36% of teens after encountering bad news on social media, while 45% feel others’ lives seem better than their own. Many teens frequently encounter harmful



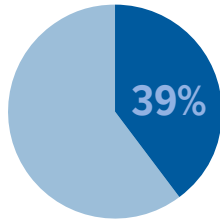
1. Verizon Consumer Connections report. (2024). [URL](#)
2. Dubit Trends. (2024). Wave 20 Report – United States. [URL](#)
3. Pew Research Center (December 2023). Teens, Social Media and Technology 2023. [URL](#)
4. Madden, M., Calvin, A., Hasse, A., & Lenhart, A. (2024). The dawn of the AI era: Teens, parents, and the adoption of generative AI at home and school. San Francisco, CA: Common Sense. [URL](#)
5. Radesky, J., Weeks, H.M., Schaller, A., Robb, M., Mann, S., and Lenhart, A. (2023). Constant Companion: A Week in the Life of a Young Person’s Smartphone Use. San Francisco, CA: Common Sense. [URL](#)

comments online, including some that are racist, homophobic, transphobic, and sexist.⁶

Digital misinformation is another pervasive threat as well. Eighty percent of teens encounter conspiracy theories online, over half believe at least one, and 45% distrust the press. With 94% of teens believing schools should teach media literacy, only 39% report receiving any media literacy instruction in the 2023–24 school year.⁷



Percentage of teens who believe schools should teach media literacy



Percentage of teens who report receiving any media literacy instruction in the 2023–2024 school year

Online safety is also a growing concern. One in four children ages 8–12 and over a quarter of 12–16 year-olds experience disturbing online content, many without reporting it. Bullying affects 25% of children ages 8–12 and 40% of those 12–16. Additionally, 61% of children in gaming environments interact with strangers, often unaware of privacy settings. Nearly half of the children aged 11–17 access mature apps including gambling, sexual content, and violent games.⁸ Alarming, reports of child sexual exploitation have surged, with the National Center for Missing and Exploited Children’s Cyber Tipline receiving 31.8 million reports in 2022 alone.⁹

Digital footprint management is also a growing concern impacting today’s youth. As students engage in online activities like social media posting, searching, location information, and digital communication, they leave behind a lasting trail of data that can form their digital legacy. This legacy can shape both personal and professional opportunities, yet many students lack awareness of the long-term consequences of their online actions. By teaching students how to manage their digital footprints, schools can help them understand the choices they have, and safeguard their identities to mitigate risks like identity theft, and intentionally create a positive and impactful online presence.

These risks and realities underscore the urgent need for educational programs to prepare students to navigate technology responsibly.

Preparing Students to Thrive in a Digital World

Digital citizenship education is a cornerstone of preparing students to navigate an increasingly connected and complex digital landscape. These programs address immediate dangers, such as cyberbullying, phishing, and exposure to inappropriate content, while equipping students with the tools to protect their privacy, identify misinformation, and build resilience against online threats. By adopting a proactive approach, digital citizenship education ensures that students develop the skills necessary to engage safely and responsibly in digital spaces.

Beyond mitigating risks, digital citizenship develops critical thinking, ethical behavior, and emotional resilience. Students learn to evaluate information critically, engage responsibly online, and use emerging tools like generative AI in constructive ways. As digital technologies continue to shape communication, learning, and innovation, these programs prepare students not just to avoid harm but to excel in a technology-driven world. Research demonstrates that well-designed programs significantly enhance students’ knowledge and confidence in managing online safety and making informed decisions to protect their privacy and avoid harmful content and online scams.^{10, 11, 12}

Digital citizenship education covers a wide range of essential skills, focusing on fostering healthy brain development, enhancing media literacy, ensuring digital safety, and effectively managing digital footprints.

By addressing these dimensions, students learn to recognize risks like digital addiction, misinformation, and identity theft while encouraging informed, responsible online behaviors. These programs also nurture essential social skills, improve digital communication, and encourage students to explore their interests while building a strong sense of identity and self-awareness.¹³

As technology becomes more deeply embedded in young people’s lives, digital citizenship education plays a pivotal role in preparing students for the growing digitalization of both learning and professional environments. These programs promote critical thinking, respect for diverse perspectives, and the ability to discern credible information in a media-saturated

6. Madden, M., Calvin, A., & Hasse, A. (2024). A double-edged sword: How diverse communities of young people think about the multifaceted relationship between social media and mental health. CommoSense, Hopelab, and NORC at the University of Chicago. [URL](#)

7. The News Literacy Project. (2024, October). News literacy in America: A survey of teen information attitudes, habits and skills. [URL](#)

8. Beresford, O., Cooney, A., Keogh, A., Flynn, E., and Messina, M. (2023). Keeping Kids Safer Online. Online Safety Matters. Trends and Usage Report Academic Year 2022/2023. CyberSafeKids. [URL](#)

9. OECD (2023), APA: OECD. (2023). Transparency reporting on child sexual exploitation and abuse online (OECD Digital Economy Papers No. 357). OECD Publishing. [URL](#)

10. Jones, L.M., Mitchell, K.J. & Beseler, C.L. The Impact of Youth Digital Citizenship Education: Insights from a Cluster Randomized Controlled Trial Outcome Evaluation of the Be Internet Awesome (BIA) Curriculum. Contemp School Psychol 28, 509–523 (2024). [URL](#)

11. Mendoza, K., Buch, E., & Ackerman, C. (2024) 2023-2024 Digital citizenship curriculum impact report. Common sense education. [URL](#)

12. Beresford, O., Cooney, A., Keogh, A., Flynn, E., and Messina, M. (2023). Keeping Kids Safer Online. Online Safety Matters. Trends and Usage Report Academic Year 2022/2023. CyberSafeKids. [URL](#)

13. Bocar, A., & Ancheta, R. (2023). Exploring students’ digital citizenship: Its importance, benefits, and drawbacks. Journal of Business, Communication & Technology, 2(2), 28-33. [URL](#)

world. More than just protecting students, digital citizenship lays the foundation for a generation of ethical, well-rounded individuals ready to succeed and contribute meaningfully to an interconnected digital society.

ISTE Standards

The International Society for Technology in Education (ISTE) Standards are widely recognized as the premier framework for integrating digital citizenship into U.S. K–12 education. They provide comprehensive guidelines for students, educators, leaders, and coaches, emphasizing the development of empowered learners, ethical digital citizens, and collaborative global contributors. By focusing on learning outcomes rather than specific tools, the ISTE Standards encourage flexibility and adaptability, allowing educators to prioritize student agency and real-world application of technology. This approach has established them as a benchmark for educational excellence in the digital era.

The ISTE Standards for students provide a framework to empower learners to thrive in a digital age, emphasizing the development of critical thinking, creativity, and ethical engagement with technology. The standards encompass seven overarching categories, each with specific subcomponents. For instance, Empowered Learners (Standard 1.1) encourages students to take ownership of their learning by setting personal goals, using technology to achieve them, and reflecting on their progress. Digital Citizens (Standard 1.2) focuses on teaching students to engage in safe, ethical, and responsible use of technology, understanding their digital footprint, and protecting their personal information. Similarly, Knowledge Constructors (Standard 1.3) emphasizes the ability to critically curate information from various sources, using digital tools to analyze, evaluate, and create meaningful content to deepen understanding. Other standards include Innovative Designers (Standard 1.4), which highlights creativity and the use of digital tools to design and prototype solutions for real-world problems; Computational Thinkers (Standard 1.5), which encourages problem-solving and logical reasoning using technology; Creative Communicators (Standard 1.6), which focuses on effective communication and expression through digital media; and Global Collaborators (Standard 1.7), which promotes collaboration across cultures and disciplines. Together, these standards prepare students to be active, responsible participants in an interconnected, technology-driven world.

The ISTE Digital Citizenship Standard 1.2 sets forth that students recognize the responsibilities and opportunities for contributing to their digital communities in the following ways:

- 1.2.a. Manage their digital identity and understand the lasting impact of their online behaviors on themselves and others and make safe, legal and ethical decisions in the digital world.
- 1.2.b. Demonstrate empathetic, inclusive interactions online and use technology to responsibly contribute to their communities.
- 1.2.c. Safeguard their well-being by being intentional about what they do online and how much time they spend online.
- 1.2.d. Take action to protect their digital privacy on devices and manage their personal data and security while online.¹⁴

ISTE published a mapping analysis of empirical studies that provide foundational research upon which their standards are built. This analysis highlights a large body of research correlating educational technology with positive outcomes for K–12 students. Studies show that edtech supports critical thinking, enhances higher-order thinking skills, promotes collaborative learning, improves study skills, and increases academic achievement. The review also emphasized the value of directly addressing digital citizenship concepts with an engaging curriculum. For example, one study demonstrated that a game-based digital citizenship program yielded more positive behaviors and higher intrinsic motivation compared to a more conventional curriculum. Another study referenced by ISTE introduced middle school students to generative AI, teaching them its creative potential and ethical implications. Through activities exploring generative modeling and the creation of Deepfakes, students developed skills to identify misinformation and understand its societal harm.¹⁵

Adopting ISTE-aligned practices benefits students, educators, and society. For students, these practices provide the tools to navigate digital environments responsibly and confidently. For educators, they offer structured, research-backed tools to deliver engaging and relevant lessons. At the societal level, embedding ISTE-aligned practices into digital citizenship education cultivates a safer and more informed digital ecosystem.

Fostering Ethical, Informed, and Safe Digital Engagement

Discovery Education, a leading provider of K–12 edtech solutions, is deeply committed to equipping students with the skills necessary for safe, responsible, and ethical participation in the digital environment. Recognizing the increasing role of technology in education and its potential risks, Discovery Education developed its Digital Citizenship curriculum to

14. International Society for Technology in Education. (2024). ISTE standards for students: Empowering learners in a digital world. ISTE. [URL](#)

15. Crompton, H., & Burke, D. (2024). The Nexus of ISTE Standards and Academic Progress: A Mapping Analysis of Empirical Studies. *TechTrends*, 68(6), 711–722. [URL](#)

empower students to make informed and ethical choices online. This curriculum aligns with the ISTE Digital Citizenship Standards, ensuring consistent and impactful learning outcomes. Leveraging the power of video storytelling, the program features an original content series that simplifies complex topics into four key focus areas: 1) the scientific impact on the brain, 2) media literacy, 3) digital safety, and 4) managing one's digital footprint. This dynamic approach underscores Discovery Education's commitment to cultivating a generation of ethical, informed, and safe digital citizens.

The Scientific Impact on the Brain: Guiding Students Toward Mindful Technology Use

The rapid growth of digital technology presents opportunities for learning and connection but also poses risks to brain development, particularly when screen time is excessive or unregulated. Scientific research shows a complex interaction of benefits and challenges across cognitive, linguistic, and socioemotional domains.

Excessive screen use is linked to reduced attention span, memory, language processing, executive functioning, and emotional regulation. Multitasking with digital media further harms academic performance and disrupts brain regions responsible for language and cognitive control.^{16, 17} Beginning as early as 4–5 months, excessive screen use can delay communication, executive functions, and literacy.¹⁸ In young children, the “video deficit effect” impairs their ability to connect on-screen content to real-world experiences, hindering language development and parent-child interactions when screens are overused or unsupervised.¹⁹ Additionally, excessive screen time exacerbates Attention-Deficit/Hyperactivity Disorder symptoms, sleep disturbances, and emotional instability, especially when it replaces meaningful real-world interactions.^{20, 21}

Despite these challenges, studies highlight the potential benefits of digital technology when used judiciously. Interactive and age-appropriate content, particularly when paired with active parental involvement, can enhance

working memory, attention, and language skills.²² Similarly, moderate screen use under 30 minutes daily is associated with improved cognitive and psychosocial development and enhanced social connections.²³ In older children, while social media use has been linked to subtle changes in the cerebellum's growth patterns, the overall impact remains minimal, emphasizing the need for more long-term research to clarify its effects.²⁴

The findings underscore the importance of balancing screen time with real-world activities and parental oversight to mitigate risks and maximize developmental benefits. Strategies such as co-viewing, establishing boundaries, and prioritizing quality over quantity in digital use are essential for nurturing healthy brain development.^{25, 26, 27}

Addressing the scientific impact of digital technology on the brain aligns closely with the ISTE Standards for Students, particularly in cultivating empowered learners, digital citizens, and computational thinkers. These standards emphasize the development of critical thinking, ethical digital engagement, and the ability to analyze and evaluate media effectively—skills directly tied to understanding the neurological and behavioral effects of screen time. By integrating knowledge about how digital habits influence cognitive functions, emotional regulation, and learning capacity, educators can guide students toward mindful technology use. This alignment ensures students are not only aware of the impacts on their brain development but are also equipped to make informed, balanced decisions about their digital consumption in alignment with broader educational and civic goals.²⁸

Within a K–12 digital citizenship program, students can learn about the scientific impact of digital technology on the brain, focusing on both the risks of excessive screen time and the opportunities for growth through mindful use. By understanding how technology affects attention, memory, emotional regulation, and mental health, students can make informed decisions about their digital habits. Lessons should emphasize balancing screen time with offline activities, choosing age-appropriate and interactive content, and practicing self-regulation while engaging with technology.

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16. Muppalla S, Vuppalapati S, Reddy Pulliahgaru A, et al. (June 18, 2023) Effects of Excessive Screen Time on Child Development: An Updated Review and Strategies for Management. *Cureus* 15(6): e40608. [URL](#)
17. Ricci, R. C., Paulo, A. S. C. D., et al. (2022). Impacts of technology on children's health: a systematic review. *Revista Paulista de Pediatria*, 41, e2020504. [URL](#)
18. Srivastava C, Patkar P. Digital Technology and Brain Development. *Journal of Indian Association for Child and Adolescent Mental Health*. 2023;19(1):21-26. [URL](#)
19. Sitskoorn, M. M. (2023). Young children and screen-based media: The impact on cognitive and socioemotional development and the importance of parental mediation. *Cognitive Development*, 66, 101319. [URL](#)
20. Muppalla S, Vuppalapati S, Reddy Pulliahgaru A, et al. (June 18, 2023) Effects of Excessive Screen Time on Child Development: An Updated Review and Strategies for Management. *Cureus* 15(6): e40608. doi:10.7759/cureus.40608 [URL](#)
21. Srivastava C, Patkar P. Digital Technology and Brain Development. *Journal of Indian Association for Child and Adolescent Mental Health*. 2023;19(1):21-26. doi:10.1177/09731342231178632 [URL](#)
22. Swider-Cios, E., Vermeij, A., & Sitskoorn, M. M. (2023). Young children and screen-based media: The impact on cognitive and socioemotional development and the importance of parental mediation. *Cognitive Development*, 66, 101319. [URL](#)
23. Ricci, R. C., Paulo, A. S. C. D., et al. (2022). Impacts of technology on children's health: a systematic review. *Revista Paulista de Pediatria*, 41, e2020504. [URL](#)
24. Nivins, S., Sauce, B., Liebherr, M. et al. Long-term impact of digital media on brain development in children. *Sci Rep* 14, 13030 (2024). [URL](#)
25. Ricci, R. C., Paulo, A. S. C. D., et al. (2022). Impacts of technology on children's health: a systematic review. *Revista Paulista de Pediatria*, 41, e2020504. doi: 10.1590/1984-0462/2023/41/2020504
26. Muppalla S, Vuppalapati S, Reddy Pulliahgaru A, et al. (June 18, 2023) Effects of Excessive Screen Time on Child Development: An Updated Review and Strategies for Management. *Cureus* 15(6): e40608. doi:10.7759/cureus.40608
27. Srivastava C, Patkar P. Digital Technology and Brain Development. *Journal of Indian Association for Child and Adolescent Mental Health*. 2023;19(1):21-26. doi:10.1177/09731342231178632
28. International Society for Technology in Education. (2024). ISTE standards for students: Empowering learners in a digital world. ISTE. [URL](#)

By encouraging these skills, digital citizenship education can empower students to harness the benefits of technology—enhanced learning, social connections, and creativity—while minimizing potential harms, setting them up for a healthier, more productive relationship with the digital ecosystem.

Media Literacy: Navigating Information

In a world saturated with information, media literacy has become an indispensable skill. Defined as the ability to access, analyze, evaluate, create, and act on various forms of communication, media literacy equips students with the tools to critically engage with media, question its underlying structures, and make informed decisions. By integrating diverse perspectives, promoting evidence-based reasoning, and encouraging dialogue, media literacy not only enhances students' cognitive and communication skills but also prepares them to become ethical, informed citizens capable of sustaining a vibrant democracy.^{29, 30}

A 2021 United Nations International Children's Emergency Fund (UNICEF) report highlights how algorithms, bots, and coordinated campaigns amplify false narratives, leading to anxiety, skewed perceptions, and diminished trust in institutions.³¹ Many teens struggle with foundational skills, such as differentiating between news, advertisements, and opinion pieces. Nearly all teens surveyed by the News Literacy Project (94%) advocate for media literacy education, yet only 39% have received it.³² By equipping students with the ability to critically evaluate the credibility of online content and discern fact from fiction, media literacy initiatives can mitigate these harms and strengthen resilience against misinformation.³³

The research evidence supporting media literacy education is compelling. Studies demonstrate that media literacy interventions improve students' ability to identify misinformation, critically analyze media, and make informed decisions about health, civic participation, and societal issues. By integrating media literacy into digital citizenship programs, educators can create engaging and student-centered learning environments that promote agency, inclusivity, and lifelong learning. Moreover, by incorporating popular and contemporary media texts, these programs ensure that media literacy education remains relevant and accessible to all students.

Digital Safety: Protecting Privacy and Promoting Ethical Conduct

K–12 digital citizenship programs must also prioritize digital safety to address the risks and opportunities presented by the digital age. By teaching about privacy tools, cyberbullying prevention, and responsible online conduct, these programs not only help safeguard students but also empower them to engage ethically and meaningfully in digital spaces.

Children may be particularly vulnerable to the risks that accompany a complex online ecosystem. Consumer activity online can lead to targeted marketing and children may have difficulty recognizing that personal data is used in this way. While parental involvement can help mitigate these risks, overly restrictive approaches may limit children's independence, emphasizing the need for mediation that builds critical thinking and protective behaviors. Digital safety education should teach students to understand privacy risks, critically evaluate online interactions, and make informed decisions about sharing personal information, ensuring they can engage safely and confidently online.³⁴

Addressing cyberbullying is also a critical component. Research shows that anti-cyberbullying programs reduce perpetration by 9–15% and victimization by 14–15%, effectively promoting a culture of respect and safety in digital spaces. These programs empower students to identify, address, and prevent harassment, which is vital in cultivating a supportive online environment.³⁵

Additionally, awareness of online content and behavior is a key area of focus. Teachers often cite concerns about students accessing inappropriate content and engaging in risky online interactions.³⁶ Digital safety lessons integrated into school curricula can help students recognize and avoid these dangers, while also reinforcing privacy and responsible behavior.

Digital safety programs offer numerous benefits. They strengthen critical thinking, enhance decision-making, and build resilience against online threats. These initiatives also help students understand the long-term consequences of their online actions, developing the skills to protect their well-being, manage personal data, and interact empathetically in digital spaces. By mastering these abilities, students are better equipped to navigate the digital landscape with confidence and integrity.^{37, 38}

29. National Association for Media Literacy Education. (2024) Core principles of media literacy education. [URL](#)

30. Rogow, F. (April 10, 2024). Media literacy for students in a digital age. Carnegie Corporation of New York. [URL](#)

31. Howard, P., Neudert, et al. (August 2021). Digital misinformation/disinformation and children. UNICEF. [URL](#)

32. The News Literacy Project. (2024, October). News literacy in America: A survey of teen information attitudes, habits and skills. [URL](#)

33. Howard, P., Neudert, et al. (August 2021). Digital misinformation/disinformation and children. UNICEF. [URL](#)

34. Livingstone, S., Stoilova, M., & Nandagiri, R. (2019). Children's data and privacy online: growing up in a digital age: an evidence review. [URL](#)

35. Gaffney, H., Farrington, D. P., Espelage, D. L., & Ttofi, M. M. (2019). Are cyberbullying intervention and prevention programs effective? A systematic and meta-analytical review. *Aggression and violent behavior*, 45, 134–153. [URL](#)

36. Martin, F., Bacak, J., Polly, D. et al. Teacher and School Concerns and Actions on Elementary School Children Digital Safety. *TechTrends* 67, 561–571 (2023). [URL](#)

37. Beresford, O., Cooney, A., Keogh, A., Flynn, E., and Messena, M. (2023). Keeping Kids Safer Online. Online Safety Matters. Trends and Usage Report Academic Year 2022/2023. CyberSafeKids. [URL](#)

38. Martin, F., Bacak, J., Polly, D. et al. Teacher and School Concerns and Actions on Elementary School Children Digital Safety. *TechTrends* 67, 561–571 (2023). [URL](#)

Digital safety education aligns closely with the ISTE Standard 1.2: Digital Citizen. This standard emphasizes empathetic and inclusive interactions (1.2.b), intentionality in online activities (1.2.c), and proactive privacy management (1.2.d). By embedding these guidelines into digital citizenship programs, students gain both the knowledge and practical tools to engage responsibly in digital environments.³⁹

Digital Footprint Management: Navigating a Digital Legacy

A digital footprint encompasses all data left behind from online activities, including social media interactions, location information, search activity, and digital communications. This footprint can significantly impact an individual's personal and professional future, making proactive education on the topic essential. By strengthening an understanding of digital footprints early in life, schools can help students not only mitigate risks but also leverage their online presence to create positive, lasting impressions.

Educators have expressed concern about students' lack of awareness regarding the permanence and consequences of their digital actions.⁴⁰ Many mistakenly believe that deleted posts or videos can no longer be seen by anyone, failing to grasp how these traces can resurface and impact their reputation. This lack of awareness often extends to the visibility of their online behavior, such as inappropriately sharing personal content or engaging in risky interactions. These gaps in understanding leave students vulnerable to risks such as identity theft, privacy breaches, and reputational harm. Research shows that children frequently share sensitive information without considering its potential misuse by third parties, leading to cybersecurity vulnerabilities.^{41, 42}

Digital footprint education addresses these challenges by teaching students to critically evaluate their online activities and understand their long-term implications. By learning how their digital presence is constructed and managed, students can take proactive steps to limit data disclosures, adjust privacy settings, and safeguard their personal information. This not only enhances their safety but also empowers them with a sense of autonomy and control over their digital identities. Such education equips students to navigate the online landscape responsibly, reducing risks while encouraging thoughtful and deliberate online behavior.⁴³

The value of a positive digital footprint is another critical aspect of digital footprint management. Students who curate their online presence by showcasing achievements,

skills, and ethical behavior can gain an advantage in future academic and professional pursuits. Encouraging students to view their digital footprint as a personal brand allows them to highlight their strengths while minimizing risks. This shift in perspective—from avoiding harm to actively shaping a positive reputation—empowers students to make deliberate and constructive contributions to their digital legacy.⁴⁴

The incorporation of digital footprint education aligns with ISTE Standard 1.2.a Digital Footprint, which emphasizes managing digital identities and understanding the lasting impact of online behavior. By teaching students to make safe, legal, and ethical decisions online, schools prepare them to navigate the complexities of digital interactions responsibly.⁴⁵ This standard reinforces the importance of equipping students with the skills to analyze their online actions critically and make informed decisions that positively influence their futures.

Corporate Investment in Digital Citizenship

Discovery Education is working with corporate partners to continue to develop and deliver essential content for the Digital Citizenship Initiative and make a substantive difference in classrooms across the country.

Investing in a K–12 digital citizenship program offers corporations a unique opportunity to drive meaningful social impact while achieving long-term business benefits. By equipping students with the skills to navigate the digital realm responsibly, companies play a pivotal role in shaping a generation of informed, ethical, and tech-savvy individuals.

This work is increasingly critical as 45% of teachers report feeling unequipped to deliver effective online safety instruction, highlighting a key area where corporate partnerships can provide essential resources and support to K–12 education.⁴⁶

Such investments not only help build a more capable future workforce but also demonstrate a commitment to addressing pressing societal challenges. They enhance brand reputation and build trust among stakeholders, while positioning corporations as leaders in promoting digital safety and reducing risks like cybersecurity threats. Additionally, these programs create strong community partnerships and

39. International Society for Technology in Education (ISTE). (2024). Standards for students: Digital citizenship. [URL](#)

40. Martin, F., Bacak, J., Polly, D. et al. Teacher and School Concerns and Actions on Elementary School Children Digital Safety. *TechTrends* 67, 561–571 (2023). [URL](#)

41. Chang, V., Golightly, L., Xu, Q. A., Boonmee, T., & Liu, B. S. (2023). Cybersecurity for children: an investigation into the application of social media. *Enterprise Information Systems*, 17(11). [URL](#)

42. Beresford, O., Cooney, A., Keogh, A., Flynn, E., and Messina, M. (2023). Keeping Kids Safer Online. *Online Safety Matters. Trends and Usage Report Academic Year 2022/2023. CyberSafeKids*. [URL](#)

43. Chang, V., Golightly, L., Xu, Q. A., Boonmee, T., & Liu, B. S. (2023). Cybersecurity for children: an investigation into the application of social media. *Enterprise Information Systems*, 17(11). [URL](#)

44. Buchanan, R., Southgate, E., Scevak, J., & Smith, S. P. (2018). Expert insights into education for positive digital footprint development. *Scan: The Journal for Educators*, 37, 49–64. [URL](#)

45. International Society for Technology in Education (ISTE). (2024). Standards for students: Digital citizenship. [URL](#)

46. Beresford, O., Cooney, A., Keogh, A., Flynn, E., and Messina, M. (2023). Keeping Kids Safer Online. *Online Safety Matters. Trends and Usage Report Academic Year 2022/2023. CyberSafeKids*. [URL](#)

exemplify a forward-thinking approach to corporate social responsibility, aligning business goals with the vision of a safer, smarter digital future.

Conclusion and Vision for the Future

The Discovery Education Digital Citizenship Initiative is a transformative step toward preparing students for success in an interconnected, technology-driven world. By equipping learners with critical skills such as media literacy and digital safety, the initiative ensures they navigate digital spaces with confidence and integrity. It empowers students to develop not only academic proficiency but also the emotional resilience and self-awareness necessary to thrive in their personal and professional lives.

As technology continues to evolve at an unprecedented pace, from artificial intelligence to immersive virtual environments, nurturing digital citizenship is more critical than ever. This program's forward-thinking approach prepares students for

the challenges and opportunities presented by emerging technologies, ensuring they are capable of making informed, ethical decisions in a rapidly changing digital landscape. By emphasizing responsible digital engagement and balance, the initiative lays the groundwork for students to harness technology's benefits while mitigating its risks.

Corporate collaboration is key to amplifying the impact of these efforts. This initiative represents a bold vision for systemic change, where education, technology, and corporate leadership come together to prioritize digital citizenship education in K–12 schools. Investing in digital citizenship today ensures that we empower students to navigate the online world responsibly, think critically, and act ethically in digital spaces. By advancing these essential skills, we can cultivate a generation of informed, respectful, and engaged digital citizens who are prepared to contribute positively to society. Together, we can build a foundation where every student has the opportunity to thrive in the digital age.