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A Call for Digital Citizenship Curriculum in Early Childhood Education

Jenna K. Ladd
Winona State University, jenna.hillyer@winona.edu

Joel J. Traver
Winona State University, jtraver@winona.edu

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A Call for Digital Citizenship Curriculum in Early Childhood Education

Introduction

The overwhelming majority of children and adolescents interact online (Auxier et al., 2020). Many researchers agree that digital media is a primary socializing agent during child development, and that digital engagement is occurring earlier in children's lives than ever before (Milenkova, Peicheva, & Marinov, 2018; Prot et al., 2015 in Lauricella et al., 2020; Rideout, 2017). Given the ubiquity of online socialization, experts recommend that children and young people receive meaningful education about how to be responsible digital citizens as early in development as possible (Rogow, 2015 in Lauricella et al., 2020).

With ever-increasing digital connectedness of children, the International Society for Technology in Education (ISTE) created seven categorical standards in which youth engage to increase their knowledge and skills within the digital world. Though the ISTE standards provide a clear roadmap for teachers and educational leaders in schools, emerging data suggests children's school readiness has been negatively impacted by the COVID-19 pandemic. Specifically, children presented losses in motor and cognitive development, attitudes toward learning, and internalizing behavior (Gonzalez et. al., 2022). Furthermore, children from lower socioeconomic families with fewer resources were more negatively impacted in their school readiness (Gonzalez et. al., 2022; Molnar, G. & Hermann, Z., 2023). As most governments (local, state, and federal) administer, evaluate, and fund early childhood programming, current structures and policies exist as clear pathways to engage families and early childcare providers in a standards-aligned curriculum to prepare children for healthy, safe, and impactful lives both on and off the internet.

Problem Statement

As the accessibility of information and the interconnectedness of people and places has increased exponentially through the internet, social problems like cyberbullying, online sexual exploitation of children, and misinformation persist (Zhu et al., 2021; Kloess et al., 2014; Khan et al., 2021). These issues demonstrate the necessity for effective digital citizenship curriculum and adult guidance as children learn to navigate the digital landscape. Digital citizenship can be understood as the ethical, safe, and responsible use of internet technologies (Mattson, 2017; Ribble, Bailey, & Ross, 2004 in Lauricella et al., 2020). From a theoretical perspective, both Sociocultural Learning Theory and Media Socialization Theory provide a strong basis for the argument that digital citizenship curriculum should be provided to children early on in their development.

In recent years there has been a proliferation of curriculum and teacher resources to support K-12 educators' efforts to develop competencies among their students related to media balance and well-being and online relationships and communication (James et al., 2021). However, most digital citizenship curriculum implementation and research is focused on middle school to high school-aged students. For example, Lauricella et al. found that one-third of K-5 teachers do not teach any digital citizenship skills at all (2020), and curriculum resources for early childhood (age 0-Preschool) digital citizenship education are difficult to find. For schools that do teach digital citizenship skills, *Common Sense* is a widely adopted and ISTE standards-aligned curriculum, serving 76 percent of K-12 instruction nationwide (Gleason & von Gillern, 2018). This type of curriculum could serve as a guide for the development of early childhood digital citizenship curriculum.

Current Digital Citizenship Curriculum Implementation

K-12 Schools have long been considered training grounds for future democratic citizens (Neem, 2019). Prominent figures in American history such as Thomas Jefferson and Horace Mann described their beliefs that the public education system can protect liberty and unite students from many backgrounds (Neem, 2019). Historians suggest the Framers of the U.S. Constitution understood an educated populace to be the young country's best defense against a return to monarchy (Kalenberg & Janey, 2016). Furthermore, as American society rapidly changed from agrarian to industrial in the 19th and early 20th centuries, American leaders created and leaned upon public education as a "scientific management" system to curb social chaos and help youth and families improve their health and safety (Katz, 1971).

The term citizenship more broadly is defined as "the quality of an individual's response to membership in a community," like a school, state, or country (Merriam-Webster, n.d.). Wray-Lake, et al. define four primary indicators of an individual's civic engagement, or the quality of one's citizenship, as community service, political interest, electoral participation, and political voice (2020).

The parents and grandparents of today's young people often performed civic duties at the ballot box or in city council meetings, but modern civic engagement transcends the limitations of physical space or business hours through the use of digital political platforms. The majority of people in the U.S. believe that online social movements can raise awareness, influence policy decisions, and change public opinion (Auxier & McClain, 2020). The organizers of recent online movements like #BlackLivesMatter, #FreePatrick, and #FridaysforFuture exhibited strong digital and civil skills, such as critically evaluating online information and collaborating with others to achieve a democratically-aligned goal (Pearl et al., 2020).

The American education system—inclusive of families, child care providers, and traditional schools—serves an essential role in cultivating citizenship skills both online and offline. Many of the digital citizenship standards put forth by ISTE in Education mirror traditional citizenship skills, such as critically evaluating information, understanding legal implications related to creating or sharing information, and engaging in internet-based political movements (Cortesi et al., 2020). Many K-12 teachers engage students in digital citizenship curriculum, but this learning is too often delayed until later in elementary school or middle school (Vega & Robb, 2019, p. 7). The overlap between traditional citizenship and digital citizenship skills coupled with rapid technological development make it clear that digital citizenship curriculum should be a fixture in both formal and informal educational settings beginning in infancy. Table 1 illustrates the ISTE Standards and *Common Sense* curriculum recommended for the development of educational materials and support in early childhood education.

Table 1

Crosswalk of Shared Elements in ISTE Digital Citizenship Standards and Common Sense Education Digital Citizenship Curriculum for Early Childhood Education

ISTE Digital Citizenship Standards				
Common Sense Education Digital Citizenship Curriculum	<i>1.2.a</i> <i>Digital identity and reputation</i>	<i>1.2.b</i> <i>Positive, safe, ethical, online behavior</i>	<i>1.2.c</i> <i>Using and sharing intellectual property</i>	<i>1.2.d</i> <i>Digital privacy and security.</i>
	<i>Media Balance and Wellbeing</i>	Moderating time spent using technology; noticing media		

		effects on emotions and physical body; “pause for people”	
<i>Privacy and Security</i>			Weigh risks and benefits of sharing personal information; cybersecurity skills such as creating strong passwords and privacy setting manipulation
<i>Digital Footprint and Identity</i>	Exploring permanence of digital presence; understanding risks of creating an online persona; values and identity integration with online behavior		
<i>Relationships and Communication</i>		Prosocial online interaction; effective interpersonal communication	
<i>Cyberbullying, Digital Drama, and Hate Speech</i>		prevent or not engage with cyberbullying	
<i>News and Media Literacy</i>		responsibly sharing information; identifying credible sources	

Early Childhood Digital Citizenship Education

Common knowledge suggests that children with access to technology inherently interact with the digital world. After a review of relevant literature, there exists a gap in the research related to the digital literacy needs of the youngest children and infants. Most infants and children from birth to six years old have access to technology, mostly through touch-screen

gameplay (Marsh et al., 2019). This activity presents risks to the child's social emotional, cognitive, and physical development if not appropriately mediated by caregivers (American Academy of Child and Adolescent Psychiatry, 2020). Parents and early childhood educators can shape responsible, balanced, and ethical online behaviors in the youngest learners through both formal and informal digital citizenship education.

Theoretical Framework

The need for early childhood digital citizenship education is well-supported by Vygotsky's Sociocultural Learning Theory. Sociocultural Learning Theory posits that children first learn through interaction with others, primarily parents, and then internalize knowledge for later use (Allman, 2018). This is most effectively achieved through children engaging in activities alongside a caregiver so that the child can gain useful skills and information which is then applied to solve problems and navigate new situations later (Scott & Palincsar, 2013). Parents can also leverage Vygotsky's Sociocultural Learning Theory to teach children how to maximize the benefits of the digital tools at their fingertips.

In contrast to parents and teachers' roles within Vygotsky's theory, Media Socialization Theory argues that movies, television, books, music, and social media are key socialization agents for the development of behavioral norms, worldviews, and values of young people (Genner & Suss, 2016). Genner and Suss (2016) describe a two-way relationship between online and offline socialization in that a person's family, school, and community environment help determine their media use habits and assessment of online information while the social interaction and content shared online can shape how individuals behave offline and see the world. This notion fits nicely with Mossberger's (2009) finding that children who learn to

critically evaluate media through regular access to the internet are more likely to be politically active later in life. Gleason and von Gillern (2018) write that social and digital media pave the way for new forms of citizenship. Illustrations of how this exposure can be used for social good are abundant as today's young people frequently call attention to social problems from political oppression during Arab Spring to Greta Thunberg's calls for climate action. Critics warn that this "clicktivism" is not effective in enacting real change, but research suggests that children who engage in political activism online are more likely to do the same "in real life" (Cho et al., 2020).

Policy Recommendation

Even the most vigilant parents cannot be present one hundred percent of the time in every digital space their child occupies. It is in the best interest of the child to learn simple digital wellness skills like self-management of screen time and social awareness early in life so that these competencies become internalized regular practice later in life when the associated risks of internet use increase (Milenkova, Peicheva, & Marinov, 2018; Prot et al., 2015 in Lauricella et al., 2020).

In order to imagine the implementation of meaningful digital citizenship guidance for the youngest individuals, it is useful to understand common venues for early childhood education. The majority of children aged five and younger in the U.S. are involved in at least one nonparental child care arrangement per week (U.S. Department of Education, 2021). Most of these children are cared for and educated in child care centers (62 percent), while the remaining are looked after by relatives (38 percent), and nonrelative caregivers (20 percent) (U.S. Department of Education, 2021).

The most wide-reaching centered-based early childhood education program is the U.S. Department of Health and Human Services Head Start Program. The Head Start program started in 1965 as part of the federal government's efforts to disrupt cycles of poverty by providing free early education to children from birth to age five from low-income families (Administration for Children & Families, 2022). Potential negative impacts of excessive internet use are compounded for children growing up in poverty. Infants and children from families with lower incomes spend more time connected digitally than their peers born into higher income families (Morgan et al., 2021).

The U.S. Department of Health and Human Services provides a learning outcomes framework to guide curriculum in Head Start programs nationally (2022). The program uses a national-to-local model, meaning that state, county, and tribal decision-makers decide how to best deliver on Head Start's five learning domains: approaches to learning, social and emotional development, language and literacy, cognition, and perceptual, motor, and physical development (U.S. Department of Health and Human Services, 2022). Although digital citizenship education has an obvious place in several of these learning domains, a review of the federal Head Start learning framework and curriculum resources reveals no mention of digital literacy, healthy screen habits, or prosocial online behavior.

Head Start programs are an underutilized avenue for providing meaningful early education in digital citizenship for a population of children who are at a greater risk for problematic technology use later in life (Morgan et al., 2021). U.S. Department of Health and Human Services decision-makers should move to revise the Interactive Head Start Early Learning Outcomes Framework (IHSELO) to include two of the Common Sense Digital

Citizenship competencies taught to students in grades K-12 nationwide. These competencies are “Media Balance and Well-Being” or finding a healthy balance between online and offline activities and “Privacy and Security,” which emphasizes the importance of keeping personal information private online (James et al., 2021). The authors selected these two competencies because most children participating in Head Start programs are in the sensorimotor and preoperational stages according to Jean Piaget’s theory of cognitive development (McLeod, 2022). “Media Balance and Well-being” and “Privacy and Security” lessons can be tailored most easily to meet the needs of children who are still developing language skills, learning to understand causality, and focused on responding to their physical body’s needs and wants (McLeod, 2022).

“Media Balance and Well-being” could be integrated into the several IHSELO domains. For example, this competency could be taught in the social and emotional development domain. To illustrate, young children must develop an awareness of screen time’s impact on their physical bodies and emotional state in order to effectively self-regulate (Guardado & Sergeant, 2022) and develop a healthy online identity. Similarly, the “Privacy and Security” digital citizenship competency could be integrated into multiple domains. Specifically, within the language and literacy domain. Modern media literacy means that children must learn to critically consume information (Wei et al., 2022) and safely interact with others online.

Table 2

Proposed Integration of Common Sense Education Digital Citizenship Curriculum into Head Start Early Learning Outcomes Framework

Interactive Head Start Early Learning Outcomes Framework

Relevant Common Sense Education Digital Citizenship Curriculum	<i>Approaches to Learning</i>	<i>Social and Emotional Development</i>	<i>Language and Literacy</i>	<i>Cognition</i>	<i>Perceptual, Motor, and Physical Development</i>
<i>Media Balance and Wellbeing</i>		Noticing emotions and physical sensations that arise during digital engagement; impact of screen use on relationships; “pause for people” Safety in online “neighborhoods;” asking trusted adults for help or guidance when faced with problems online	Media literacy; private vs. public information	Stop and think before acting online	Balance online activity with offline, physical activity
<i>Privacy and Security</i>					

The regular family engagement, home visits, and community partnership inherent to the Head Start program make it an obvious fit for earlier digital citizenship curriculum implementation. Developmentally appropriate lesson plans for each focus area should be created for use in Head Start Child Care Centers and during home visits. From a policy perspective, utilization of a standards-aligned curriculum within the IHSELO framework would allow qualified early childhood instructors to not only facilitate learning related to digital citizenship at school but also collaborate with families to encourage media co-use and digital check-ups. Integrating the *Common Sense Media* curriculum with Head Start program is an obvious choice

for policymakers invested in ensuring that all children are free to maximize the benefits of the digital world and secure protection from its risks.

Conclusion

Online engagement presents both opportunities and risks for children, who are connected digitally more often now than ever before (Prot et al., 2015 in Lauricella et al., 2020; Rideout, 2017; Auxier et al., 2020). Social problems such as the online exploitation of children, misinformation, and cyberbullying demonstrate the need for impactful digital citizenship curriculum (Zhu et al., 2021; Kloess et al., 2014; Khan et al., 2021). Much of the existing research and curriculum resources related to digital citizenship focuses on middle school and high school students (Vega & Robb, 2019, p. 7). As a result, further research is required to validate and support the implementation of a standards-based curriculum for children aged birth-five in early childhood education and care settings. Furthermore, we call for Federal policymakers to amend the current ELOF and PFCE Head Start curriculum frameworks to include two of the Common Sense digital citizenship curriculum topics most relevant to young children. Finally, research indicates that children from families with lower incomes face greater risks related to internet use (Morgan et al., 2021); we urge the research and development of early childhood digital citizenship curriculum as a matter of equity, inclusion, and accessibility for children in an increasingly digitized world.

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