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Critical Digital Citizenship: Its Conceptualization and Implications for Education

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Abstract

This paper explores the conceptual clarity of critical digital citizenship (CDC) and its significance in educating students for a post-digital, inclusive, and egalitarian society. The discussion highlights the urgency of critical digital citizenship in school and university education, particularly for the younger generation, who are digital natives. Through a systematic review, the researchers affirm the importance of incorporating CDC into school and university curricula. The study results provide CDC with a theoretical and practical framework that facilitates its integration into classroom teaching.

Keywords: critical digital citizenship, school education, university education, digital equity, access

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Introduction

The internet and digital technologies have significantly changed people's lives, affecting their habits, worldview, and relationships (Puthur et al., 2023). High-speed internet, cell phones, tablets, and PCs have permeated everyday life (Hassan & Mirza, 2021). In an age characterized by the aggressive implementation of digital technology, the information transmitted frequently through digitized tools has positive and negative effects on people's lives. People across the globe have become more aware of issues related to cyber ethics, intellectual property, online privacy, and appropriate behavior on the internet.

This article thus addresses the urgent issue of the teaching and learning of Critical Digital Citizenship (CDC) (Logan et al., 2022). In a world enmeshed in digital technology, children and young adults must learn how to safeguard their privacy, combat cyberbullying, identify fake news, communicate respectfully and critically evaluate digital content (Prasetiyo et al., 2021). As educators, we must teach the younger generation about appropriate online behavior, digital rights and responsibilities, and how to evaluate online culture. There is a pressing need to prompt future policymakers to attend to the digital divide and digital equity. By instilling the principles of Critical Digital Citizenship, we educate students on how to grow responsibly and critically in the digital age (Logan et al., 2022). This empowers users to become more aware and conscious of the impact of their attitudes and behavior in the new digital society.

Teaching students the principles of Critical Digital Citizenship builds their confidence and enhances their moral sensibility. Critical Digital Citizenship (CDC) education shapes students' digitally related values and equips them to be responsible, ethical, and well-informed online citizens who contribute positively to the digital world. Accordingly, this paper aims to synthesise views on the nature and content of courses in Critical Digital Citizenship, better informing educators of current thinking.

The number of people utilizing digital devices, often to access social media, has grown exponentially (Arisoy, 2022). Critical Digital Citizenship addresses the ethical implications of this new form of communication by combining the concepts of Digital Citizenship and Critical Pedagogy (Logan et al., 2022). Digital Citizenship can be divided into two categories: (i) traditional Digital Citizenship, and (ii) Critical Digital Citizenship. A traditional view of Digital Citizenship explains how the responsible individual should behave online. Critical Digital Citizenship draws upon

the proponents of Critical Pedagogy, such as Freire, Kincheloe, and Giroux. Critical Pedagogy encourages students to use their experiences to participate in democracy ethically. It links learning and education to life by advocating fairness, equity, and social justice. Critical Pedagogy addresses students' lived experiences and the structures of power and inequality. It seeks transformative education that addresses wider causes and structures that cause oppression and marginalization (Bradshaw, 2017). The founder of Critical Pedagogy, Paulo Freire, introduced the concept of "critical consciousness", which helps pupils distinguish between their interests and those of the dominating class (e.g. Freire, 2005). Critical Digital Citizenship thus aims to support learners in developing a critical consciousness about their use of digital media and tools.

The survey of research undertaken in this paper is to help educators better understand the nature of critical perspectives on Digital Citizenship. It particularly addresses the importance of CDC in tackling the issues of equity, justice, and technological bias. By exploring this background, we aim to elucidate the theoretical and practical foundation for CDC in a way that will be useful to students, educators, administrators, policymakers, and stakeholders in school and university education.

Methodology

This article is a qualitative survey of key CDC articles published in peer-reviewed journals. The survey aims to clarify the concept of CDC and to ascertain the significance of CDC for students so that they are prepared to become responsible agents in the post-digital era, empowered to contribute actively to creating a just society.

Results and Discussion

Citizenship and Education

For educators, the topic of citizenship has long assumed central importance. Including citizenship in school instruction and as a desirable "graduate attribute" in higher education has been an overt, but sometimes controversial, educational goal for almost one hundred years (Fallace, 2009; Longstreet, 1985). The influential educational philosopher, John Dewey, directly talked about "civic efficiency" or "good citizenship" based on experience and political and social involvement in one's community as one of the main goals of education in his 1916 book *Democracy and Education*. Because citizenship is an important part of general education, educators must understand how citizenship is defined and updated in the modern world (Choi, 2016).

The comprehension and examination

of Digital Citizenship can undoubtedly benefit from extensive knowledge of civic education since these two concepts are intricately interconnected. An example of the interconnectedness between education and politics can be seen in the taxonomy of citizenship qualities proposed by Westheimer and Kahne (2004), highlighting the relationship between citizenship development and education.

Westheimer and Kahne's (2004) framework categorizes citizenship into three types: personal responsibility, participatory citizenship, and justice-oriented citizenship. These categories align with theoretical perspectives and may vary depending on different educators' democratic educational aims. Programs promoting justice-oriented citizens, for example, may not necessarily promote personal responsibility and participatory citizenship. Programs for developing personally responsible citizens focus on character building, honesty, integrity, self-discipline, and compassion. Programs for promoting participatory citizens encourage active involvement in civic affairs and social life. Justice-oriented citizens understand social, economic, and political forces and focus on collective work and structural critique. Programs promoting justice-oriented citizens engage students in informed analysis and discussion, encouraging collective strategies for change that challenge injustice and address the root causes of problems.

Digital Citizenship vs Critical Digital Citizenship

1. Understanding Digital Citizenship

In the past, discussions around Digital Citizenship mainly addressed students' online safety. This concept has changed over the last twenty years. People are becoming equally aware of issues like cyber ethics, intellectual property, online privacy, and appropriate behavior on the internet. The "Nine Elements of Digital Citizenship" (Ribble, 2007) enumerate the components of Digital Citizenship, justifying the inclusion of each one into the educational curriculum. They address (i) access, or complete digital participation in society; (ii) commerce, or the online buying and selling of goods; (iii) communication, or the digital exchange of information; (iv) literacy, that is, the process of teaching and learning about technology and the use of technology; (v) etiquette, the standards of conduct or procedure on digital platforms; (vi) the law, or responsibility for online actions and deeds; (vii) those rights and responsibilities extended to everyone in a digital world; (viii) health and wellness, that is, the physical and psychological well-being in a digital world; and (ix) security (self-protection): precautions to guarantee

online safety. Ribble's groundbreaking study emphazises the need to build secure and ethical online communication and collaboration across different domains. Digital Citizenship becomes a shared responsibility among educators. Consequently, schools and universities must integrate the ethical use of technology into the teaching and learning process for teachers, students, and administrators. The misuse and abuse of digital technology in educational institutions and daily life have reached significant levels. One way of addressing this issue is that Digital Citizenship should permeate the educational curriculum, not becoming a standalone class but an integral part of the education system (Ribble & Bailey, 2007).

Digital Citizenship is often defined as the ability to participate in society online (Gu et al., 2023). This concept is based on two components, namely competence and participation. The competence aspect of Digital Citizenship emphasizes individuals' online skills, enabling them to use technology and the internet for social, cultural, and economic engagement (Gu et al., 2023). It encompasses many behaviors, practices and principles that guide how people should conduct themselves in the digital world. Digital Citizenship education aims to equip individuals, especially students, with the knowledge and skills to navigate the digital world responsibly and ethically. It emphasizes the importance of promoting a positive online culture, respecting others' rights and opinions, and contributing to a safer and more inclusive digital society. These competences can be related to the nine components identified by Ribble (2007), listed above, and grouped as "themes". According to Ribble (2014), the main themes of digital citizenship are respect, education, and protection. The elements in each theme are shown in Table 1.

Table 1

Themes and Elements of Digital Citizenship

Themes	Elements of Digital Citizenship
Respect	Etiquette: standards of conduct and behavior on online platforms
	Digital Access: full digital participation in society
	Digital Law: users' responsibility for online actions and deeds
	Communication: information exchange in digital environments
Educate	Literacy: knowledge and skills about when and how to use technology
	Commerce: the buying and selling of goods online

Protect	Rights and Responsibilities: the privileges and freedoms of digital citizens
	Safety: precautions to ensure in digital media
	Health and Welfare: physical and psychological well-being of digital users

Hollandsworth et al (2011) explain various dimensions of Digital Citizenship and their impact on educational development. Lack of awareness and knowledge about Digital Citizenship is a significant cause of behavioral problems among students. As more and more students access online platforms, the question arises: Who is responsible for safely guiding students to use online technologies? Those who govern a digital society must be able to make the right decisions regarding online safety, behavior, protection, digital access and technology-related health risks. Hollandsworth and colleagues provide practical guidance for educators who want to promote Digital Citizenship among learners.

Social media platforms have increased political, social and civic engagement in promoting Digital Citizenship. Digital Citizenship includes the competence to use digital technology to participate actively in social discourse, communicate with others, and create content. Digital Citizenship is a guiding principle for personal and academic activities and requires the ethical and responsible use of digital tools. Digital Citizenship is transforming young people's knowledge and ideas and offering new opportunities for global citizenship, civic participation and engagement (Chukwuere & Munapo, 2023).

While many scholars have concentrated on competence-based models of Digital Citizenship, a few studies focus on the participatory view of Digital Citizenship. This perspective connects Digital Citizenship to economic, social, or political participation in the online world. It considers social and political rights and possibilities, including digital access, literacy, and civic engagement, providing a more contextual and culturally sensitive framework for digital citizenship (Gu et al., 2023).

While speaking about Digital Citizenship, Prensky (2001) famously classified two types of digital citizens: digital natives and digital immigrants. The coining of the expression "digital native" was popularized by Prensky (2001), following Tapscott (1998). The term "digital native" refers to individuals born between 1980 and 1994, as they are the first generation to have grown up with contemporary technology (Elaoufy, 2023). A digital native can effortlessly share information, interact, and connect to others through digital media. They are well-versed in internet knowledge and

skills because they grew up in the atmosphere of social media such as X (formerly Twitter), Facebook, Instagram, blogs, podcasts, YouTube, online news, text messaging, instant messaging, smartphones, iPads, and so on. Adults who were born in the digital era are often also called "generation X", or the "iGeneration", or they are described as having "digital DNA" from birth (Barbuceanu, 2020). The "digital immigrants" are people who learned how to use technology after they became teenagers. Though they may have become proficient in using digital tools over time, it is still clear that they are not digital natives because of how they use them. When they need information, they look at written materials instead of the internet, and they do not naturally turn to technology (Cimen, 2021; Wang, 2012; Wang, Myers, and Sundaram, 2013).

The implications of Digital Citizenship in education, for both "digital natives" and "digital immigrants", have been elucidated by Capuno (2022). One aspect is teaching students to be safe and respectful in the digital world. Many educational institutions have embraced digitalization in their teaching and learning management processes. Educators and students have become digital citizens through this process (Capuno et al., 2022). Accordingly, the International Society for Technology in Education (ISTE) includes concepts of Digital Citizenship in its standards for the responsible and ethical use of technology for educators, students and administrators (ISTE, 2017).

2. Understanding Critical Digital Citizenship

The critical pedagogical approaches to education mainly influence the concept of CDC. "Critical Pedagogy" is a term first coined by Paulo Freire and then expanded upon by Henri Giroux, among other critical educators, and is a potent educational philosophy. Critical Pedagogy is a democratic educational approach that promotes questioning, equity, justice, and critical thinking. It empowers students to contribute to societal change and fosters an inclusive, equitable environment. Critical Pedagogy encourages justice and critical reflection, fostering responsible societal members. It criticizes dominant assumptions that reduce students to passive recipients of educational content, and addresses issues of fairness and power dynamics in and beyond the classroom. By challenging cultural norms and assumptions, Critical Pedagogy aims to create an inclusive learning environment, bridging the gap between theory and practice (Freire, 1970; Giroux, 1992; Guilherme & Corbett, 2021).

Critical Pedagogy promotes social justice and equality by raising awareness of privileged classes and empowering

students. It focuses on understanding and using knowledge, recognizing that knowledge is a site of contestation and conflict. For Freire (1970), Critical Pedagogy is learner-centered education. He distinguished between a "banking" model of education and problem-posing education. In the traditional "banking" model, teachers are knowledgeable and students passively follow their teacher's instructions, investing given content in a mental "bank". This model encourages a docile attitude towards societal problems and inequalities. On the other hand, problem-posing education fosters critical thinking and action by allowing students to see the world as constantly changing. This approach makes students aware of problems, prepares them for bigger issues, and empowers them to voice their concerns and act against injustice. The goal of education is not just to learn facts but to foster critical consciousness, enabling students to become agents of social transformation (Freire, 2000). Additionally, critical digital pedagogy has contributed to the construction of CDC, emphasizing equal power-sharing in digital environments and re-examining space, interaction, and learning tools. CDC emphasizes community, accepting diverse voices, and finding applications beyond traditional institutional settings. Open, connected learning spaces should facilitate knowledge sharing and foster collaboration between teachers and students. "Criticism in the Classroom" is an educational movement for social justice (Morris & Stommel, 2018).

Digital Citizenship does not directly address issues like justice, equity, civic engagement and so on; it often deals only with appropriate and respectful online behavior. Educators need to understand technology through the lens of Critical Pedagogy, which promotes social justice by raising consciousness of systemic barriers. Critical Pedagogy encourages understanding how systems and hierarchies of power conspire to undervalue the lived experiences, knowledge, language and culture of oppressed communities (Ogan et al., 2022). Thus, Critical Digital Citizenship combines the principles of Digital Citizenship and Critical Pedagogy (Freire, 2000).

In addressing CDC, Logan et al. (2022) discuss how technology can change how people participate as citizens and work for justice. In addition to teaching students how to stay safe and behave properly online, we should look at technology and civic involvement with a critical eye. The Young People's Race, Power, and Technology Project (YPRPT) is an example of a learning experience designed to foster students' CDC and encourage them to cultivate justice-oriented civic identities

(Logan et al., 2022). This project is an example of how young people can participate in politics and can help instructors and researchers think about what it means to be a good digital citizen. Critical theory is used in the program to figure out how digital governance helps young people transcend the social barriers of race and class. The students' discussions show that they are becoming more politically aware of other people's feelings and better at being good internet citizens.

The YPRPT project shows how important inquiry and study design are for dealing with power and injustice in the classroom. The study also discusses the problems educators face when teaching Critical Digital Citizenship.

The Relevance of CDC in Education

This section summarises the discussion of the relevance of CDC in education.

1. The dialogic approaches advocated by Freire and others are the most effective method to improve students' critical thinking capacity. They facilitate the mutual exchange of information and encourage engagement between the learner and teacher. CDC promotes a dialogic approach in the digital learning environment. Teachers adopting a dialogic approach understand that the students' mind is not an empty vessel. Every student brings specific experiences and knowledge with them. So, knowledge is formed through the mutual exchange of information and thoughts. CDC fosters an environment where the teacher and student are equal partners in dialog.
2. Dewey (1902) suggested that there should be a fundamental distinction to be made between the subject matter covered in the curriculum and the experiences that a learner has encountered. CDC promotes learning that applies to actual experiences to get beyond this limitation.
3. Accessibility is often overlooked in the context of digital innovation. Companies often put marketability, usability, and aesthetics ahead of digital inclusion, which creates obstacles for students from lower-income families. Consequently, certain groups may experience marginalization and find it more challenging to access the basic services and social connections that their communities need. This will probably lead to long-term marginalization and discrimination. In order to incorporate accessibility principles into instruction in a digital setting, school administrators can benefit from the assistance of CDC.
4. CDC can bring changes in the edu-

cational system by fostering critical thinking, curiosity, and inquiry-based learning through the development of interactive learning environments. When this strategy is applied, students are equipped to pose relevant questions, research challenging material, and develop a deeper understanding of the world around them. Generally speaking, using CDC greatly enhances students' capacity to ask questions.

5. The mission of CDC is to address disparities in access to digital resources and foster responsible technology use. It recognizes that not everyone has equal access to technology, frequently because of geography, socioeconomic status, education level, or physical capabilities. Implementing a CDC curriculum promotes measures to close the digital divide, including building broadband infrastructure, offering financial aid, and putting initiatives for digital literacy in place. Additionally, it highlights how crucial inclusivity and accessibility are to digital technology content. This involves ensuring that platforms and webpages are usable by people with various needs, including those who are disabled. CDC's primary goal is to establish a digital environment where all individuals can engage actively and equally.
6. The framework of Critical Digital Citizenship (CDC) guides individuals in comprehending digital tools' purpose, motives, and societal consequences. It prompts individuals to scrutinize the originators, intentions, beneficiaries, financial incentives, and societal effects of digital tools. CDC's primary aim is to comprehensively understand the origins, intended functionality, and equitable distribution of benefits associated with digital tools. Furthermore, it raises questions regarding the beneficiaries of digital tools, emphasizing the possibility of unfair consequences and the exacerbation of inequality. Finally, CDC promotes thoughtful examination of the inclusiveness and accessibility of digital technologies, making sure they do not worsen existing disparities or exclude the underprivileged. By analyzing these aspects, individuals can actively promote increased openness, accountability, and social responsibility. CDC enables users to manage the intricate realm of digital technology with heightened awareness and accountability.
7. CDC offers a vital perspective for

analyzing the power dynamics present in digital learning environments. It highlights important concerns, including algorithmic biases, the digital gap, corporate influence, and the reinforcement of dominant cultural norms. Within the domain of digital education, CDC urges us to carefully examine how algorithms, which are frequently created with inherent biases, influence the availability of educational materials and opportunities. Algorithmic bias worsens existing inequalities based on race, gender, and socioeconomic status. CDC underscores the digital gap, emphasizing how unequal access to technology and internet connectivity exacerbates educational disparities, placing marginalized people at a disadvantage. CDC encourages the examination of corporate influence in digital learning platforms, where the pursuit of profit may prioritize commercial interests over the effectiveness of teaching and the well-being of students. Furthermore, CDC emphasizes the significance of examining how prevalent cultural norms are reflected and sustained in online learning environments, promoting inclusivity and questioning systematic disparities. CDC enables us to advocate for fair and transformative digital learning environments that prioritize accessibility by comprehending and addressing these power dynamics.

8. CDC is a paradigm for understanding the difficulties of the relationship between business and education. EdTech enterprises use innovative technologies to shape educational practices and pedagogies. However, CDC highlights concerns about their motivations and the consequences of their impact, including their commercial goals and potential threats like commodification and data abuse. By taking a critical perspective,CDC empowers educators, students, and stakeholders to engage with the digital realm ethically, encouraging openness and responsible decision-making. This comprehensive understanding of Critical Digital Citizenship unlocks the potential for digitalization to provide more inclusive, egalitarian, and powerful educational experiences.
9. CDC is a concept that enhances students' awareness of online hazards such as cyberbullying, cyber ethics, protection, and digital security. It urges people to be proactive in preventing and dealing with cyberbullying, while also encouraging

empathy and respect. CDC also emphasizes the importance of cyber ethics, advising people to examine the consequences of their conduct. It also teaches people about digital security measures, like strong passwords and two-factor authentication, and promotes critical engagement with digital platforms. By encouraging openness, accountability, and user rights, CDC contributes to safer, more inclusive digital environments.

10. CDC is a global concept involving students and teachers using digital platforms and technologies to actively participate in social issues and causes. It involves learning about and addressing societal issues through online research, education, and awareness campaigns. As a result, educators and students can become skilled agents of change by raising awareness and mobilizing support. Through online activism and platforms like social media campaigns, people can increase their influence by practicing digital citizenship. In order to support nonprofit organizations and social movements and help create a more equitable society, cyber volunteers are crucial. Digital Citizenship cultivates digital civility, empathy, and respect by enabling people to speak out against abuse. Digital Citizenship cultivates empathy, digital literacy, and responsible online behavior, enabling people to make positive changes within their communities and beyond.

Conclusion

In this article, we seek to affirm the significance of CDC education. We have clarified the meaning of "Critical Digital Citizenship," distinguishing it from "Digital Citizenship" and traditional concepts of citizenship. CDC emphasizes the students' active involvement in society. Digital Citizenship emphasizes respect for others, learning, and protecting each other online. CDC adds critical consciousness to these fundamentals. Critical consciousness entails understanding power dynamics, prejudices, and injustices in digital spaces and society. Critical consciousness helps students question dominant narratives, challenge systemic injustices, and promote social justice. This broader awareness helps students critically analyze digital content, identify and confront bias and discrimination, and actively promote positive change.

CDC is essential for improving education and creating a just and responsible society. CDC offers theoretical and practical approaches to integrating critical conscious-

ness into education. CDC principles can help educators create curricula and activities that encourage students to consider the ethics of digital technology use. Educators can promote critical thinking and empowerment by including talks, projects, and assignments on algorithmic prejudice, digital rights, and online activism. CDC allows educators to implement successful Digital Citizenship programs in schools. CDC helps students navigate the digital world by teaching them media literacy, online safety, and responsible digital behavior. Through the advocacy of CDC, teachers can improve their Digital Citizenship and critical thinking abilities and enhance their professional development and collaborations with colleagues, thus benefiting both students and society.

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