ISSN: P-2455-0515
E- 2394-8450

Educreator Research Journal

OPEN ACCESS

VOLUME–XII, Special Issues–I March – April 2025

Original Research Article

DIGITAL CITIZENSHIP IN TEACHER EDUCATION: A NEED OF THE HOUR

** Trupti Amol Matele*

** Research Scholar, Department of Education, University of Mumbai.*

Abstract

As education systems across the globe embrace digital transformation, the concept of digital citizenship has emerged as a vital component of 21st-century teacher education. In India, this need is particularly pressing in light of the National Education Policy (NEP) 2020, which emphasizes ethical and responsible technology use. This paper argues that digital citizenship is not just a technological competency but a civic and ethical imperative for future educators. Through a review of global and Indian literature—including recent studies by Anand et al. (2021) and Singh (2022)—this paper examines the current gaps in digital awareness among teachers and students. It proposes a three-pillar conceptual framework: Awareness, Application, and Action, to embed digital citizenship into teacher training programs. The study underscores that a value-based digital pedagogy aligned with NEP 2020 will empower educators to lead, model, and mentor responsible digital behavior. Ultimately, it calls for curriculum reforms, institutional policy alignment, and professional development strategies to mainstream digital citizenship in Indian teacher education.

Introduction:

The rapid integration of digital technologies in education has transformed teaching and learning processes across the world. In the Indian context, the National Education Policy (NEP) 2020 presents a timely mandate to incorporate technological and ethical competencies into all levels of education. However, teacher education programs have yet to systematically embed digital citizenship—the understanding of rights, responsibilities, and ethical behavior online—into their curriculum. This paper addresses the pressing need to integrate digital citizenship education in teacher preparation, outlining conceptual and policy rationales for its inclusion. Digital transformation in education goes beyond using smartboards or online assessments. It encompasses the mindset, behavior, and values educators bring to digital spaces. While technological infrastructure is improving in India, the ethical literacy required to navigate this landscape remains underdeveloped. Students are entering digital platforms without adequate preparation to protect their privacy, interact respectfully, or critically evaluate online information. Teachers, who are central to student development, must therefore be trained not only in digital tools but in the moral frameworks that guide their use.

NEP 2020's emphasis on holistic development and competency-based education makes digital citizenship a critical area of focus. This policy provides a unique opportunity to embed responsible digital behavior as a learning outcome in teacher education. However, implementation will require redefining teacher competencies,

ISSN: P-2455-0515
E- 2394-8450

Educreator Research Journal

OPEN ACCESS

VOLUME–XII, Special Issues–I March – April 2025

Original Research Article

developing localized content, and integrating digital citizenship into existing courses rather than treating it as an add-on module. This paper addresses these gaps by proposing a conceptual framework that aligns with NEP 2020 and Indian socio-educational contexts.

Review of Literature:

Ribble (2011) laid the groundwork for understanding digital citizenship through his nine-element framework, which includes digital access, commerce, communication, literacy, etiquette, law, rights and responsibilities, health and wellness, and security. Choi et al. (2017) expanded this by emphasizing the role of critical thinking and civic engagement. In the Indian context, Anand et al. (2021) found that both students and teachers demonstrated a lack of awareness about digital citizenship, arguing for its urgent integration into the education system. Singh (2022) further emphasized the institutional role in promoting digital values and advocated for a national curriculum tailored to the Indian sociocultural landscape. Studies by Azeem (2023), Prajapat et al. (2024), and Kharbirymbai (2024) reinforce the necessity of linking NEP 2020's mandates to responsible digital pedagogy in teacher training.

Conceptual Framework:

The paper proposes a three-pillar model to integrate digital citizenship into teacher education:

Pillar	**Focus Area**	**Learning Outcome for Teacher Trainees**
Awareness	Understanding digital rights, NEP 2020, cyber laws	Develop conceptual clarity on digital ethics and responsibilities
Application	Case studies, digital dilemmas, teaching simulations	Translate concepts into teaching practices and strategies
Action	Digital role-modeling, advocacy, mentoring	Lead ethical digital use in schools and influence peers

Discussion:

Each pillar of the framework plays a distinct and interrelated role in shaping a digitally responsible educator. The Awareness pillar lays the theoretical groundwork. Teachers become familiar with digital laws, NEP guidelines, rights to privacy, and data protection norms. This sets the stage for reflection and critical evaluation of online behavior. In the Application pillar, educators engage in real-world pedagogical exercises. These include simulations involving ethical dilemmas, student data misuse, or content verification challenges. By using case-based learning, trainees internalize abstract concepts. The Action pillar focuses on leadership. Teachers evolve into digital role models, advocating for safe tech use in staffrooms, classrooms, and online communities. They mentor peers and students alike and can act as institutional change agents in policy implementation or community awareness efforts. Together, these three pillars shift digital citizenship from theory to embodied practice.

NEP 2020 outlines a vision of transforming education into a holistic, learner-centered, and technologically enriched process. Digital citizenship fits squarely within this vision, providing the ethical and civic foundation required for digital engagement. The integration of digital citizenship must begin at the teacher training level,

ISSN: P-2455-0515
E- 2394-8450

Educreator Research Journal

OPEN ACCESS

VOLUME–XII, Special Issues–I March – April 2025

Original Research Article

where future educators can be equipped not only with technical skills but also with the understanding to foster responsible online behavior in students. Institutions can embed this through curriculum modules, workshops, and policy alignments. Further, the formation of the National Educational Technology Forum (NETF) provides a mechanism for scaling such initiatives nationwide.

Conclusion:

The call to integrate digital citizenship in Indian teacher education is both timely and urgent. In the wake of NEP 2020, this paper highlights the importance of preparing educators to be responsible digital role models. The proposed three-pillar model—Awareness, Application, and Action—offers a strategic pathway to achieve this integration. By adopting a value-driven, policy-aligned approach, India can ensure that its educators are not only digitally literate but are also ethical leaders in the online world.

Moving forward, digital citizenship must evolve beyond awareness to include critical consciousness and participatory behavior. Future research should explore the long-term impact of digital citizenship training on teacher performance and student outcomes. Technologies like AI, the metaverse, and immersive platforms introduce new ethical dilemmas around data, surveillance, and consent—areas that should become part of an evolving digital ethics curriculum. Policymakers must also prioritize equity in access to digital training tools across rural and urban regions. As India continues its digital leap, it must ensure that its educators are equipped not just to use technology, but to guide learners toward responsible, civic, and ethical digital engagement.

Future Directions:

Globally, countries like Australia and the United States have integrated digital citizenship education into national frameworks. In the U.S., the Common Sense Education curriculum is widely adopted across K–12 schools, offering modules on media balance, cyberbullying, and digital footprint. Australia's eSafety Commissioner leads national programs to equip educators with practical tools for online safety, privacy, and respectful communication. The UK integrates digital responsibility into PSHE (Personal, Social, Health, and Economic) education. These global practices underscore the importance of regulatory frameworks, standardized content, and stakeholder engagement. India can adapt these models by tailoring them to its sociolinguistic and infrastructural contexts. Government-private partnerships can further amplify training reach.

Global Best Practices in Digital Citizenship:

Effective integration of digital citizenship into teacher education requires coherent policy frameworks, curriculum mandates, and institutional accountability. The National Council for Teacher Education (NCTE) should issue comprehensive guidelines outlining competencies related to digital ethics and safety. State Councils of Educational Research and Training (SCERTs) can operationalize these through customized training modules that align with regional challenges and resources. Teacher eligibility tests (TETs) and B.Ed curricula must include case-based assessments on digital behavior, privacy rights, and online safety. Professional development platforms such as DIKSHA can be leveraged to deliver micro-credentials in digital citizenship. Furthermore, school principals and teacher educators should undergo leadership training focused on digital norms, creating institutional cultures that promote ethical use of technology.

ISSN: P-2455-0515
E- 2394-8450

Educreator Research Journal

OPEN ACCESS

VOLUME–XII, Special Issues–I

March – April 2025

Original Research Article

Policy and Implementation Strategies:

Artificial Intelligence (AI) is transforming classrooms across the globe, including India. Platforms like ChatGPT, personalized learning software, and automatic assessment tools are reshaping pedagogical processes. However, this evolution also brings ethical challenges. How do educators ensure originality in student work? How should student data be collected and analyzed fairly? AI tools are powerful but require strict ethical governance. NEP 2020 briefly references technology use but does not explicitly address the nuances of AI ethics in schools. There is also the risk of overreliance on AI tools without human oversight. If not managed properly, such tools may reinforce bias, reduce teacher-student interaction, and affect learning autonomy. Hence, a future-ready digital citizenship curriculum must include modules on AI ethics, data interpretation, and digital critical thinking, ensuring teachers can guide students responsibly in an AI-enhanced environment.

The Rise of AI and New Ethical Frontiers in Education:

Despite the rapid technological advancements, current practices in many Indian classrooms reflect a concerning casual approach toward digital safety and ethics. Teachers and students often engage in technology use without proper guidelines or understanding of consequences. For example, educators may use messaging apps for class communication without securing parental consent or safeguarding student data. Students, too, frequently access social media platforms during school hours, with limited awareness of cyberbullying, digital footprints, or misinformation. This lack of structured digital norms leads to vulnerabilities, both psychological and legal. Technology is often perceived as a tool for convenience rather than a domain requiring responsibility. The broader societal attitude also contributes—online fraud, impersonation, and data leaks are often treated passively or with delayed action, reinforcing the need for awareness and preventive education.

Current Gaps and Casual Approaches in Indian Classrooms

The following table summarizes key contrasts between digital citizenship education practices in India and leading global models:

Comparative Summary: Indian vs Global Practices

Failing to integrate digital citizenship education has tangible consequences. Students remain vulnerable to online abuse, misinformation, and identity theft. Teachers may unknowingly violate data privacy laws or model inappropriate digital behavior. Institutions risk reputational damage, legal repercussions, and breakdowns in digital learning ecosystems. Without ethical digital guidance, AI tools may be misused, widening learning inequalities and compromising data integrity. Institutional readiness for the digital age depends on proactive digital ethics embedded in teacher education.

Impact of Inaction:

The implementation of digital citizenship education faces multiple systemic barriers. First, technological infrastructure is uneven, especially in rural and low-income urban schools. Second, teacher attitudes often reflect apprehension or lack of awareness, with many seeing digital ethics as secondary to academic instruction. Third, professional training programs rarely include dedicated modules on digital responsibility. Budget allocations are

ISSN: P-2455-0515
E- 2394-8450

Educreator Research Journal

OPEN ACCESS

VOLUME–XII, Special Issues–I March – April 2025

Original Research Article

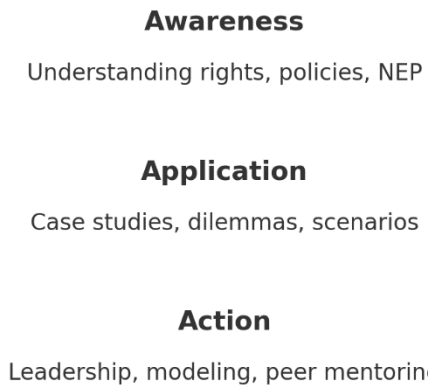
skewed toward hardware provision rather than holistic digital competency development. Overcoming these requires targeted investment, mindset change, and administrative commitment to long-term pedagogical reforms.

Barriers to Implementation:

India's federal education system results in significant variability in teacher education practices across states. States like Kerala and Delhi have integrated ICT into teacher training programs more comprehensively, often supported by strong infrastructure and ongoing in-service development. In contrast, states such as Bihar and Jharkhand face systemic challenges like underfunding, lack of digital access, and minimal exposure to concepts like digital citizenship. The presence of SCERTs and DIETs in most states offers potential for change, but implementation remains uneven. A national digital citizenship curriculum must allow flexible localization while maintaining core standards across all regions.

State-wise Comparative Review of Teacher Education Practices:

Visual Framework for Digital Citizenship in Teacher Education



Aspect	India	Global Models
Policy Framework	Emerging post-NEP, variable by state	Well-established national mandates
Curriculum Integration	Minimal, often ad hoc	Compulsory and embedded (e.g., PSHE, Common Sense)
Teacher Training	Limited exposure, inconsistent modules	Structured, mandatory certification
Support Systems	DIKSHA, SCERTs (variable quality)	Centralized portals and dedicated agencies
Ethics in AI	Largely missing from curriculum	Included as standard training component

ISSN: P-2455-0515
E- 2394-8450

Educreator Research Journal

OPEN ACCESS

VOLUME–XII, Special Issues–I March – April 2025

Original Research Article

References:

1. *Ribble, M. (2011). Digital Citizenship in Schools: Nine Elements All Students Should Know. ISTE.*
2. *Choi, M., Glassman, M., & Cristol, D. (2017). What It Means to Be a Citizen in the Internet Age. Computers & Education, 107, 100–112.*
3. *Anand, M.A. (2021). Digital Citizenship and Education in India Concerning NEP 2020: A Qualitative Study. Semantic Scholar. https://pdfs.semanticscholar.org/cc82/26e610d1293f7f650dd73cbedb9e9e3d1a22.pdf*
4. *Singh, R., Lall, R., & Anand, G. (2022). Rethinking Planning Education for Urban Equality: Higher Education as a Site for Change. Environment and Urbanization. https://journals.sagepub.com/doi/pdf/10.1177/09562478221113623*
5. *Azeem, M.A. (2023). Digital Citizenship and Education in India Concerning NEP 2020. Semantic Scholar.*
6. *Prajapat, S. et al. (2024). ICT Tools for Online Learning Environments with NEP-2020. Springer.*
7. *Kharbirymbai, B.B. (2024). ICT Integration in Teaching-Learning Process. Indian Journal of Educational Technology.*

Cite This Article:

Matele T.A. (2025). *Digital Citizenship in Teacher Education: A Need of the Hour*. **In Educreator Research Journal: Vol. XII (Issue II),** pp. 306–311. ***Doi:*** ***https://doi.org/10.5281/zenodo.15706507***