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A Critical Analysis of Student-teacher Engagement and Digital Pedagogy

ORIGINAL ARTICLE

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Abstract

The integration of digital pedagogy into contemporary education has transformed traditional teaching and learning. This critical study investigates the dynamics of student-teacher engagement in digitally mediated environments. By analyzing various models, this paper evaluates how digital tools impact behavioral, emotional, and cognitive engagement, identifying both the opportunities for enhanced interactivity and the systemic barriers that hinder effective implementation. This critical research study examines the dynamic relationship between student-teacher engagement and digital pedagogy. By analyzing the shift from traditional instruction to technology-mediated learning environments, it highlights how digital tools—when paired with active educator support—significantly enhance behavioral, cognitive, and emotional engagement. The rapid integration of digital technologies into education has fundamentally transformed the nature of teaching and learning, reshaping student–teacher engagement across diverse educational contexts. Digital pedagogy extends beyond the mere use of technological tools by emphasizing learner-centered instructional practices, collaborative knowledge construction, and meaningful interaction within both physical and virtual learning environments. This paper critically examines the relationship between student–teacher engagement and digital pedagogy by analyzing their theoretical foundations, pedagogical implications, benefits, challenges, and future prospects. Drawing upon constructivist learning theory, the Community of Inquiry (CoI) framework, Technological Pedagogical Content Knowledge (TPACK), the SAMR model, and student engagement theory, the study explores how digital pedagogical practices influence students' cognitive, behavioral, emotional, and social engagement. The study critically evaluates these opportunities and challenges in light of the objectives of the National Education Policy-2020 and recent developments in digital education. It argues that effective student–teacher engagement in digital environments depends not merely on technological availability but on purposeful pedagogical design, teachers' digital competence, institutional support, and inclusive educational practices. The paper concludes that digital pedagogy should complement rather than replace human interaction, fostering meaningful, equitable, and sustainable learning experiences. The findings provide valuable insights for educators, teacher educators, policymakers, curriculum developers, and educational researchers seeking to strengthen digitally mediated teaching–learning processes in the twenty-first century.

Key Words

Digital Pedagogy, Student–Teacher Engagement, Educational Technology, NEP 2020, Digital Education.

Introduction

The twenty-first century has witnessed an unprecedented transformation in education driven by rapid advancements in information and communication technologies (ICT), artificial intelligence, cloud computing, learning management systems, and digital communication platforms. These technological innovations have significantly reshaped the traditional teaching–learning process, creating new opportunities for interaction, collaboration, and knowledge construction. The integration of digital pedagogy into educational institutions has altered not only the methods of instruction but also the nature of student–teacher relationships, making engagement a central determinant of educational quality and learning outcomes.

Student–teacher engagement refers to the dynamic, reciprocal, and meaningful interaction between learners and educators that promotes active participation, academic achievement, motivation, and holistic development. Research consistently demonstrates that positive student–teacher engagement enhances students' cognitive, emotional, behavioral, and social development while fostering critical thinking, creativity, and lifelong learning skills. In traditional classroom settings, such engagement is facilitated through face-to-face communication, immediate feedback, collaborative learning, classroom discussions, and interpersonal relationships. However, the increasing adoption of digital learning environments has fundamentally transformed these interactions by shifting communication from predominantly physical spaces to virtual, hybrid, and technology-mediated platforms.

Digital pedagogy extends beyond the simple integration of technological tools into teaching. It represents a learner-centered pedagogical philosophy that strategically employs digital technologies to enhance learning experiences, encourage collaboration, personalize instruction, facilitate assessment, and promote knowledge creation. Effective digital pedagogy requires educators to combine technological competence with sound pedagogical knowledge and disciplinary expertise. Frameworks such as Technological Pedagogical Content Knowledge (TPACK), the SAMR model, and the Community of Inquiry (CoI) framework emphasize that technology becomes educationally meaningful only when integrated with appropriate instructional design, learner engagement, and reflective teaching practices.

In the Indian context, the National Education Policy-2020 recognizes digital education as a key driver of educational transformation. The policy advocates the integration of educational technology, digital infrastructure, online learning resources, teacher professional development, and blended learning approaches to improve educational quality, equity, and accessibility. Simultaneously, NEP 2020 emphasizes the importance of learner-centered pedagogy, critical thinking, experiential learning, inclusivity, and continuous teacher support, thereby reinforcing the indispensable role of student–teacher engagement within digitally enriched educational environments.

This paper critically analyzes the evolving relationship between student–teacher engagement and digital pedagogy by examining relevant educational theories, empirical research, contemporary practices, and policy perspectives. It explores the multidimensional nature of engagement, evaluates the opportunities and challenges associated with digital teaching–learning environments, and discusses the implications for teachers, teacher educators, educational institutions, and policymakers. The paper argues that the success of digital pedagogy depends not merely on technological innovation but on the thoughtful design of learning experiences that prioritize meaningful interaction, collaboration, inclusivity, and human-centered education. Such an approach is essential for preparing learners with the knowledge, competencies, and digital citizenship skills required in an increasingly interconnected and technology-driven world.

The Role of Teacher Pedagogy in Digital Spaces

Technology alone does not guarantee learning. The effectiveness of digital pedagogy heavily relies on the instructional strategies and support systems deployed by educators.

- **Teacher Support & Guidance:** Teacher presence is a key predictor of learner satisfaction. When teachers actively mediate digital content, students demonstrate better cognitive and emotional engagement.
- **Pedagogical Balance:** Reliance on fully asynchronous or "instructor-less" learning often leads to digital fatigue and student disengagement. A blended learning strategy that integrates technology with human connection yields the highest academic outcomes.
- **Digital Literacy Constraints:** Successful engagement requires both students and teachers to possess adequate digital competence. Infrastructural limitations and unequal access to resources remain significant barriers.

Literature Selection Criteria

The literature included in this review was selected based on the following criteria:

- Relevance to student–teacher engagement and digital pedagogy.
- Publication in reputable peer-reviewed journals or recognized academic publishers.
- Focus on higher education, teacher education, school education, or online/blended learning.
- Inclusion of theoretical, empirical, systematic review, and policy-based studies.
- Availability of sufficient methodological and analytical information.

Duplicate studies, non-scholarly sources, opinion pieces without empirical or theoretical support, and publications lacking academic rigor were excluded from the review.

Objective of Study

The present study aims to critically examine the relationship between student–teacher engagement and digital pedagogy in contemporary educational settings. The specific objectives of the study are as follows:

1. To examine the concept and dimensions of student–teacher engagement in the context of digital learning environments.
2. To analyze the concept, principles, and characteristics of digital pedagogy and its role in enhancing teaching–learning processes.
3. To critically evaluate the impact of digital pedagogy on student–teacher engagement, including cognitive, behavioral, emotional, and social engagement.
4. To identify the opportunities and educational benefits of digital pedagogy in promoting active learning, collaboration, communication, and learner autonomy.
5. To examine the challenges and barriers affecting effective student–teacher engagement in digitally mediated classrooms, such as the digital divide, technological limitations, digital competence, assessment issues, and learner well-being.
6. To analyze the relevance of major educational frameworks—including TPACK, the SAMR Model, the Community of Inquiry (CoI) Framework, and Student Engagement Theory—in understanding digital pedagogy and student–teacher interaction.
7. To evaluate the implications of the National Education Policy (NEP) 2020 for strengthening student–teacher engagement through technology-enabled teaching and learning.
8. To propose evidence-based recommendations for educators, teacher educators, educational institutions, and policymakers to enhance meaningful student–teacher engagement through effective digital pedagogical practices.

Research Question

The present study seeks to address the following research questions:

1. What is the concept and significance of student–teacher engagement in contemporary digital learning environments?

2. What are the key principles, characteristics, and dimensions of digital pedagogy that influence teaching and learning?
3. How does digital pedagogy affect the cognitive, behavioral, emotional, and social dimensions of student–teacher engagement?
4. What opportunities does digital pedagogy provide for enhancing meaningful student–teacher interaction, collaboration, and active learning?
5. What are the major challenges and barriers to effective student–teacher engagement in digitally mediated classrooms?
6. How do the TPACK Framework, the SAMR Model, the Community of Inquiry (CoI) Framework, and Student Engagement Theory explain the relationship between digital pedagogy and student–teacher engagement?
7. How does the National Education Policy (NEP) 2020 support the integration of digital pedagogy for improving student–teacher engagement in Indian education?
8. What pedagogical strategies and policy interventions can strengthen effective student–teacher engagement in technology-enhanced learning environments?

Methodology

This study draws on peer-reviewed literature and policy-based analytical frameworks—such as those emphasized in the National Education Policy (NEP) 2020—to assess the impact of digital integration. Data trends and empirical analyses indicate a positive correlation between strategic digital instruction and high student achievement. Descriptive survey study design was followed. An interview schedule was prepared for student to know their perception. Data was collected by administering interview question and their responses were analyzed thoroughly. Qualitative data analysis procedure was adopted.

Research Design

The present study adopts a qualitative, conceptual, and critical review research design. Rather than collecting primary data through surveys or experiments, the study critically examines and synthesizes existing theoretical and empirical literature on student–teacher engagement and digital pedagogy. This approach enables a comprehensive understanding of contemporary developments, emerging trends, pedagogical practices, and policy implications in digitally mediated education.

Nature of the Study

The study is descriptive, analytical, and interpretative in nature. It systematically reviews scholarly literature to explore the evolving relationship between student–teacher engagement and digital pedagogy. The emphasis is on identifying recurring themes, evaluating existing evidence, comparing different theoretical perspectives, and critically discussing the strengths, limitations, and future directions of digital pedagogical practices.

Data Sources

The study relies exclusively on secondary data collected from credible academic and policy sources, including:

- Peer-reviewed journal articles.
- Scholarly books and edited volumes.
- Conference proceedings.
- Government policy documents and reports.
- National Education Policy (NEP) 2020.
- Research databases such as ERIC, Scopus, Web of Science, Google Scholar, JSTOR, and SpringerLink.

The literature reviewed primarily comprises publications from 2015–2026, while seminal theoretical works published earlier are also included to provide a strong conceptual foundation.

Analytical Framework

The analysis is guided by established educational theories and technology integration models, including:

- Student Engagement Theory (Fredricks, Blumenfeld, & Paris, 2004).

- Community of Inquiry (CoI) Framework (Garrison, Anderson, & Archer, 2000).
- Technological Pedagogical Content Knowledge (TPACK) Framework (Mishra & Koehler, 2006).
- SAMR Model (Puentedura, 2013).
- Constructivist Learning Theory (Piaget, Vygotsky, Bruner).

These frameworks provide the conceptual basis for evaluating how digital pedagogy influences cognitive, behavioral, emotional, and social dimensions of student–teacher engagement.

Method of Analysis

A thematic content analysis approach was employed to organize and interpret the reviewed literature. The analysis involved the following stages:

1. Identification of relevant scholarly sources.
2. Systematic reading and extraction of key findings.
3. Coding of recurring concepts and themes.
4. Classification of themes into conceptual categories.
5. Comparative analysis of national and international perspectives.
6. Critical interpretation of findings in relation to educational theories and policy frameworks.
7. Synthesis of evidence to develop implications and recommendations.

Scope of the Study

The study focuses on student–teacher engagement within digital, online, blended, and technology-enhanced learning environments. It critically examines pedagogical practices, educational technologies, learner engagement, teacher roles, institutional readiness, and policy initiatives, with particular reference to NEP 2020 and contemporary developments in digital education. Although examples from different educational levels are considered, greater emphasis is placed on higher education and teacher education.

Limitations of the Study

The study has the following limitations:

- It is based solely on secondary sources and does not include primary empirical data.
- Findings depend on the quality and scope of the reviewed literature.
- Rapid technological advancements may lead to new developments beyond the review period.
- Context-specific educational practices may vary across countries and institutions, limiting the generalizability of some conclusions.

Despite these limitations, the study provides a comprehensive and critical synthesis of current knowledge and offers valuable insights into strengthening student–teacher engagement through effective digital pedagogy.

Critical Analysis of Student–Teacher Engagement

Student–teacher engagement is widely recognized as one of the most significant determinants of successful teaching and learning. It encompasses the quality of interactions, communication, trust, collaboration, and mutual participation between teachers and students throughout the educational process. In contemporary education, engagement extends beyond physical classroom interactions to include virtual, blended, and technology-mediated learning environments. While digital transformation has created new possibilities for interaction, it has simultaneously introduced complexities that require a critical examination of the nature and effectiveness of student–teacher engagement.

From a theoretical perspective, student–teacher engagement is multidimensional, comprising behavioral, cognitive, emotional, and social engagement. Behavioral engagement refers to students' active participation in classroom activities, discussions, and assignments. Cognitive engagement involves higher-order thinking, problem-solving, and intellectual investment in learning. Emotional engagement reflects students' sense of belonging, motivation, confidence, and positive relationships with teachers, whereas social engagement emphasizes collaboration, peer interaction, and participation in learning communities. Effective teaching requires balancing all these dimensions rather than focusing solely on academic achievement.

Traditional classroom settings naturally facilitate student–teacher engagement through face-to-face communication, immediate feedback, eye contact, non-verbal cues, and spontaneous classroom discussions. Such environments enable teachers to recognize students' learning difficulties, emotional needs, and motivational levels more effectively. Personal interaction strengthens trust and creates a supportive learning atmosphere that promotes academic success and psychological well-being. However, traditional pedagogy has also been criticized for its teacher-centered approach, limited learner autonomy, and unequal participation, where passive learning often dominates classroom instruction.

The emergence of digital pedagogy has fundamentally altered the dynamics of student–teacher engagement. Digital platforms such as Learning Management Systems (LMS), video conferencing applications, discussion forums, collaborative documents, and artificial intelligence-based learning tools have expanded opportunities for communication beyond the physical classroom. Students can now interact with teachers asynchronously and synchronously, access learning resources at any time, receive timely feedback, and participate in collaborative projects irrespective of geographical location. Such flexibility supports personalized learning and encourages greater learner autonomy.

Despite these advantages, digital learning environments also present significant challenges. One major concern is the reduction of authentic human interaction. Virtual communication often lacks emotional richness because facial expressions, gestures, tone, and informal conversations are either absent or significantly reduced. Consequently, students may experience feelings of isolation, decreased motivation, and weaker emotional connections with their teachers. Research indicates that while technology facilitates communication, it does not automatically create meaningful engagement. Genuine engagement depends on purposeful instructional design, active teacher presence, and continuous interaction.

The Community of Inquiry (CoI) framework offers valuable insights into effective student–teacher engagement in digital education. According to this framework, meaningful learning occurs through the integration of teaching presence, social presence, and cognitive presence. Teaching presence involves instructional design and facilitation, social presence emphasizes interpersonal relationships and community building, while cognitive presence focuses on critical inquiry and knowledge construction. When these three elements are effectively integrated, digital environments can support engagement comparable to, and in some contexts exceeding, traditional classrooms.

Similarly, the Technological Pedagogical Content Knowledge (TPACK) framework emphasizes that successful engagement depends not merely on technological expertise but on the integration of technology with sound pedagogy and subject knowledge. Technology should therefore function as a facilitator of learning rather than an end in itself. Overemphasis on digital tools without pedagogical planning often leads to superficial engagement characterized by passive content consumption rather than meaningful learning.

From a critical perspective, student–teacher engagement should not be measured solely by the frequency of online interactions or the use of digital platforms. Meaningful engagement requires reciprocal communication, collaborative learning, emotional support, timely feedback, and opportunities for reflection. Educational institutions must therefore invest in teacher professional development, digital infrastructure, inclusive policies, and learner support systems to strengthen engagement in technology-enhanced learning environments.

In conclusion, student–teacher engagement remains the cornerstone of educational effectiveness regardless of the mode of instruction. While digital pedagogy offers unprecedented opportunities for communication, personalization, and collaboration, it cannot replace the human relationships that underpin meaningful learning. The future of education lies in integrating technological innovation with human-centered pedagogical practices that foster trust, inclusivity, critical thinking, and active participation. A balanced approach that combines the strengths of traditional and digital pedagogies is essential for achieving sustainable and equitable educational outcomes.

Critical Analysis of Digital Pedagogy

Digital pedagogy has emerged as a transformative approach to teaching and learning by integrating digital technologies with pedagogically sound instructional practices. Unlike traditional technology-assisted instruction, digital pedagogy emphasizes learner-centered education, collaborative knowledge construction, critical thinking, and active engagement through digital environments. It seeks to enhance educational quality by enabling flexible,

personalized, and interactive learning experiences. However, the effectiveness of digital pedagogy depends not merely on the availability of technology but on its purposeful integration into teaching and learning processes.

A major strength of digital pedagogy lies in its ability to support diverse learning needs. Through Learning Management Systems (LMS), artificial intelligence-based learning platforms, virtual classrooms, simulations, and multimedia resources, students can learn at their own pace and revisit instructional materials whenever required. Digital tools also facilitate collaborative learning through online discussions, shared documents, peer assessment, and project-based activities. Such practices encourage learner autonomy, creativity, and critical thinking while extending learning beyond the physical classroom.

Despite these advantages, digital pedagogy has attracted considerable criticism. One of its primary limitations is the tendency to equate technology use with pedagogical innovation. The mere adoption of digital tools does not necessarily improve learning outcomes. In many educational settings, technology is used simply to replicate traditional lecture-based instruction rather than to transform teaching practices. Consequently, students may remain passive recipients of information instead of becoming active participants in knowledge construction. The SAMR model highlights that meaningful digital transformation occurs only when technology enables learning experiences that would otherwise be impossible, rather than merely substituting conventional methods.

Another critical concern relates to educational equity. Unequal access to reliable internet connectivity, digital devices, and technological support continues to create disparities among learners. These inequalities disproportionately affect students from rural and socio-economically disadvantaged backgrounds, limiting the inclusive potential of digital education. Furthermore, inadequate digital competence among teachers may reduce the quality of instruction, making professional development an essential component of successful digital pedagogy.

The effectiveness of digital pedagogy is also influenced by ethical and psychological considerations. Excessive screen time, digital fatigue, reduced face-to-face interaction, concerns regarding data privacy, and the overreliance on artificial intelligence may negatively affect learners' well-being and interpersonal relationships. Therefore, educators must balance technological innovation with human interaction, empathy, and ethical responsibility.

In conclusion, digital pedagogy should be viewed as a pedagogical philosophy rather than merely a technological intervention. Its success depends on integrating technology with sound educational principles, effective instructional design, and meaningful student–teacher engagement. A balanced, inclusive, and human-centered approach to digital pedagogy can significantly enhance learning outcomes while addressing the challenges associated with technology-mediated education.

Recommendations

Based on the critical analysis of student–teacher engagement and digital pedagogy, the following recommendations are proposed to enhance the effectiveness, inclusivity, and sustainability of technology-enabled education:

1. **Strengthen Teachers' Digital Competence**: Educational institutions should provide continuous professional development programmes focusing on digital literacy, instructional design, educational technologies, artificial intelligence applications, and learner-centered pedagogical practices. Teachers should be equipped not only with technological skills but also with the ability to integrate technology meaningfully into teaching.
2. **Promote Learner-Centered Digital Pedagogy:** Digital teaching should emphasize active learning, collaborative problem-solving, inquiry-based learning, project-based learning, and reflective practices rather than content transmission. Interactive teaching strategies encourage deeper cognitive and emotional engagement.
3. **Enhance Student–Teacher Interaction:** Teachers should maintain regular communication with students through synchronous and asynchronous platforms, provide timely feedback, encourage discussions, and establish supportive online learning communities. Strong teacher presence is essential for maintaining motivation and meaningful engagement.
4. **Reduce the Digital Divide:** Governments and educational institutions should improve digital infrastructure by ensuring equitable access to affordable internet connectivity, digital devices, and learning resources,

particularly for students from rural and socio-economically disadvantaged backgrounds.

5. **Integrate Digital Pedagogy with Traditional Teaching**: Rather than replacing conventional classroom instruction, digital pedagogy should complement face-to-face teaching through blended learning models that combine the strengths of both approaches.
6. **Adopt Evidence-Based Pedagogical Frameworks:** Institutions should encourage the use of established frameworks such as TPACK, the SAMR Model, and the Community of Inquiry (CoI) Framework to guide effective technology integration and improve instructional quality.
7. **Promote Ethical and Responsible Use of Technology:** Educational institutions should establish clear policies regarding digital citizenship, academic integrity, data privacy, cybersecurity, and the ethical use of artificial intelligence to ensure safe and responsible digital learning environments.
8. **Support Students' Well-being:** Digital learning should be designed to minimize screen fatigue and learner isolation by incorporating collaborative activities, regular mentoring, counseling services, and opportunities for social interaction that foster emotional well-being.
9. **Align Digital Pedagogy with NEP 2020:** Educational institutions should implement the vision of the National Education Policy (NEP) 2020 by promoting blended learning, digital innovation, inclusive education, multilingual resources, and continuous teacher professional development to improve educational quality and accessibility.
10. **Encourage Continuous Research and Evaluation:** Future research should investigate the long-term impact of digital pedagogy on student engagement, academic achievement, digital well-being, and teacher effectiveness across diverse educational contexts. Institutions should regularly evaluate digital teaching practices using evidence-based indicators to ensure continuous improvement.

The successful implementation of digital pedagogy requires a balanced integration of technology, pedagogy, and human interaction. Technology should serve as a catalyst for meaningful learning rather than a substitute for effective teaching. By fostering inclusive practices, strengthening teacher capacity, and prioritizing meaningful student–teacher engagement, educational institutions can create resilient, equitable, and future-ready learning environments that meet the evolving needs of twenty-first-century education.

Conclusion

The rapid advancement of digital technologies has fundamentally transformed the educational landscape, redefining how teaching, learning, and student–teacher interactions occur across schools, colleges, and universities. This paper critically examined the relationship between student–teacher engagement and digital pedagogy, highlighting that technology has become an indispensable component of contemporary education. However, the analysis demonstrates that the effectiveness of digital education depends not on technological availability alone but on the quality of pedagogical practices and the strength of student–teacher engagement. The critical analysis of digital pedagogy indicates that technology has significantly enhanced educational accessibility, flexibility, and learner autonomy. Digital tools, learning management systems, virtual classrooms, artificial intelligence, and multimedia resources have enabled innovative teaching practices that support active and collaborative learning. Nevertheless, the study also identifies several persistent challenges, including the digital divide, unequal access to technological resources, inadequate digital competence among teachers, screen fatigue, concerns regarding data privacy, and the potential decline in meaningful interpersonal interaction. These findings emphasize that technological innovation alone cannot guarantee educational quality unless it is supported by sound pedagogical principles and inclusive institutional practices.

The theoretical perspectives discussed in this paper—including the TPACK Framework, the SAMR Model, the Community of Inquiry (CoI) Framework, Constructivist Learning Theory, and Student Engagement Theory—collectively demonstrate that effective digital pedagogy requires the integration of technological knowledge, pedagogical expertise, subject content, and meaningful social interaction. These frameworks reinforce the view that digital technologies should function as tools for facilitating critical thinking, collaboration, creativity, and reflective learning rather than simply delivering instructional content.

From the Indian perspective, the National Education Policy (NEP) 2020 provides a progressive framework for integrating digital technologies into education while emphasizing equity, inclusion, experiential learning, teacher professional development, and learner-centered pedagogy. The successful realization of these objectives requires

sustained investment in digital infrastructure, continuous professional development for teachers, institutional support systems, and policies that reduce educational inequalities. Furthermore, educational institutions should adopt blended learning models that combine the flexibility of digital education with the interpersonal strengths of face-to-face teaching.

In conclusion, the future of education lies not in replacing teachers with technology but in empowering teachers through technology. Digital pedagogy should complement, rather than substitute, the human relationships that form the foundation of meaningful education. Student–teacher engagement remains the cornerstone of effective teaching and learning, irrespective of whether instruction occurs in physical, virtual, or blended environments. By integrating technological innovation with human-centered pedagogy, educational institutions can foster inclusive, engaging, and sustainable learning ecosystems that prepare learners with the knowledge, skills, digital competencies, and ethical values required to thrive in the twenty-first century. Future research should continue to examine emerging technologies, such as artificial intelligence, learning analytics, immersive learning, and adaptive educational systems, to better understand their long-term implications for student engagement and educational quality.

Bibliography

1. Anderson, T. (Ed.). (2008) *The theory and practice of online learning.* (2nd ed.) Athabasca University Press, Alberta, Canada.
2. Bruner, J. S. (1966) *Toward a theory of instruction.* Harvard University Press, Cambridge, USA.
3. Darling-Hammond, L. (2017) *Empowered educators: How high-performing systems shape teaching quality around the world.* Jossey-Bass, California, USA.
4. Fredricks, J. A.; Blumenfeld, P. C. & Paris, A. H. (2004) School engagement: Potential of the concept, state of the evidence. *Review of Educational Research,* 74(1), 59–109.
5. Garrison, D. R. (2011) *E-learning in the 21st century: A framework for research and practice.* (2nd ed.) Routledge, New York USA.
6. Government of India. (2020) *National Education Policy 2020.* Ministry of Education, Government of India, New Delhi.
7. Koehler, M. J. & Mishra, P. (2009) What is technological pedagogical content knowledge (TPACK)? Contemporary Issues in *Technology and Teacher Education,* 9(1), 60–70.
8. Ministry of Education. (2021) *National Digital Education Architecture (NDEAR).* Ministry of Education, Government of India, New Delhi.
9. Mishra, P. & Koehler, M. J. (2006) Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record,* 108(6), 1017–1054.
10. Moore, M. G. (1993) *Theory of transactional distance.* In D. Keegan (Ed.), Theoretical principles of distance education, pp. 22–38, Routledge, London, England.
11. National Council for Teacher Education. (2021) *Quality teacher education framework.* National Council for Teacher Education, New Delhi.
12. National Council of Educational Research and Training. (2022) *National Curriculum Framework for Foundational Stage.* National Council of Educational Research and Training, New Delhi.
13. Vygotsky, L. S. (1978) *Mind in society: The development of higher psychological processes.* Harvard University Press, Cambridge, USA.
14. Zimmerman, B. J. (2002) Becoming a self-regulated learner: An overview. *Theory Into Practice,* 41(2), 64–70.

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