Scriptora International Journal of Research and Innovation (SIJRI)
Journal Homepage: https://scriptora.org

Navigating Pedagogical Paradoxes and Epistemic Dissonance: An Indian Social Science Perspective on Challenges in Education Policy and Praxis in the Digital Epoch

Rakshana K B[1], Dr. C. P. Senthil Kumar[2]

[1]Research scholar
PG & Research Department of Commerce, Guru Nanak College,
Chennai, Tamil Nadu, India.
[2] Assistant Professor,
PG & Research Department of Commerce, Guru Nanak College,
Chennai, Tamil Nadu, India.

Abstract

Evaluating the interplay of technological coherence: The interplay of the policy flux delineates the pedagogical paradoxes and epistemic dissonance in the socio-historical paradigm of education in India that may be clarified by the social scientific deconstruction of conceptual synergy of technological acceleration: policy praxis: social science and education. This study uses a qualitative research methodology which draws on critical discourse analysis and empirical survey research to examine the implications of technological determinism for student and teacher-mediated epistemic engagement practices. This estheticisation - the fruits of which are already visible in a widening rift between grassroots learning and academic formalisation - points to a waning of dialectical reason and an atomised interdisciplinarity: a dialectical balance between digital openness and traditional epistemology is needed to preserve the integrity of social science research. It calls for syncretic integration of AI-based educational solutions with indigenous pedagogical frameworks to nurture the contextual and resilient knowledge ecosystem in the Indian academia and pave the way for an equitable and transformative multi-layered pedagogical system.

Keywords: Social Science, Education, Epistemic Dissonance, Algorithmic Learning, Cognitive Automation, Technological Determinism, Heuristic Learning, Indigenous Pedagogical Frameworks.

1. Introduction

One of the side-effects of digital revolution is its impact on education system in India and that, in turn, invites high-level debates on issues of equity, accessibility and quality control since ancient times in social sciences. For instance, the Digital India inclusion initiative and well-intentioned Digital India agenda have sensitised us towards unequal access to the infrastructure (Gupta and Singh 2021). The policy conundrums they identify for the old pedagogy being conflated effortlessly with these new digital pedagogies in the case of government policy makers are: the intensification of the hegemony of rote learning (and critical digital literacy) (Mishra & Rana, 2019). The first techno-linked variable unravels India's intricate tensions generating reforms in education, also highlighting policy-practice gaps, socio-cultural issues such as linguistic hegemony and regional imbalances (Devy, 2018) and their policy implications for educational justice. It provides the context for multidimensional analysis of how each of these determinants as isolated phenomena change the fair education-namely by drawing examples from differential NEP 2020 rollout (Sharma, 2022), indigenous knowledge system excluded from standard syllabus (Kumar, 2020), etc.

Literature Review

Analysis of critical and recent research of pedagogic paradoxes, epistemic dissonance, emerging conundrums and evolving Indian education system by social critics like Freire (1970), analytic pedagogy, dialectic learning and learner agency stands in opposition to Rote learning culture of India (Gupta & Singh, 2021).

Antoine Devy (2018), in reminding us about the marginality of indigenous epistemologies provides the argument for the fact that the massive production of curricula is characterized by the tendency to depoliticize local epistemologies. In analyzing cities of India, Mishra and Rana (2019) establish the existence of digital divide and its implications for equitable learning on the basis of an urban-rural divide with respect to access to technology. Further, the year 2020 had seen Kumar writing his critique to harden the curriculum and non-acceptance of cultural difference, whereas a recent publication from Sharma (2022) was based upon the NEP 2020 issues in association with region disconnect and infrastructural facility. From a user perspective, the international analysis by World Bank (2020) puts a macro lens on the issues related to digital transformation in South Asia and calls for emphasizing contextualization in rolling out reforms that balance digital on the one hand and cultural and pedagogical inclusivity on the other.

Theoretical Context

Defining Pedagogical Paradoxes

The pedagogical antithesis between critical thinking and creativity, and rote learning examinations are substantive examination results of learning content having made the implementation of progressive education policy from above extremely difficult. For instance, robotics and coding are taught as a subject in urban schools in India (Gupta & Singh 2021), however, the assessment of the students is by and large done on traditional exams which foster cramming. We have observed this paradox at work in rural schools where electronic tablets have been donated (World Bank, 2020), but teachers are not skilled to build exploratory learning, to put it another way superficial learning happens. These gaps emerge where educational reforms claim to teach literacies for the twenty-first century but remain wedded to regressive institutional cultures that are heirlooms of colonialism (Kumar 2020).

Epistemic Dissonance

Epistemic dissonance is a term to describe cognitive and cultural dissonance brought on by the conflicting hegemonic structures of Western knowledge and indigenous/local epistemologies. Globalization, the hegemony of the English language, and information and communication technology-based curricula that tend to displace local traditions of knowledge, local languages, and local understandings of the world only serve to make this tension worse, creating a disconnect between students' everyday life and institutionalized knowledge systems.

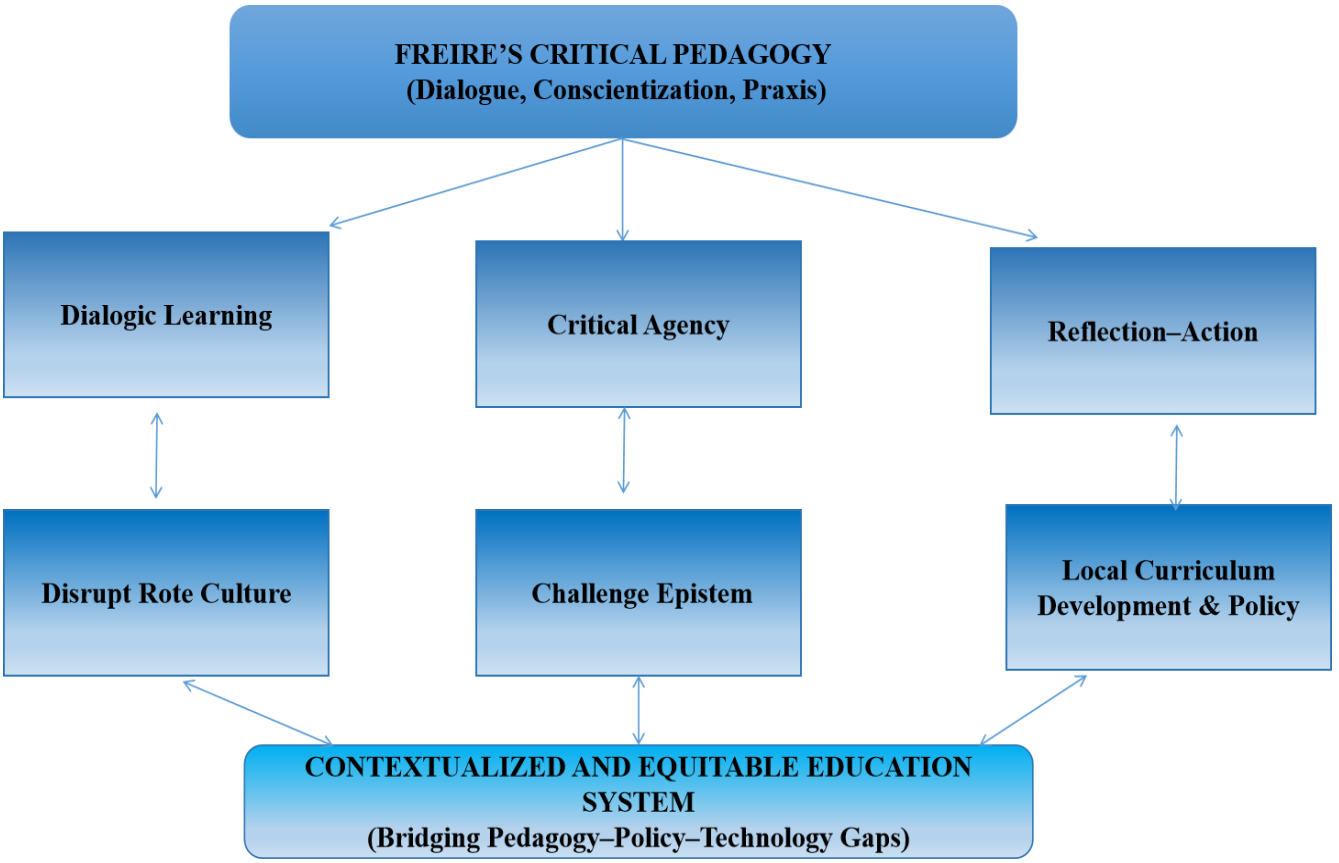
Objectives of the Study

To critically analyze the pedagogical paradoxes and epistemic dissonance emerging in the Indian education system amidst rapid digital transformation and policy reforms.

To explore context-sensitive strategies for integrating digital innovations with indigenous and inclusive pedagogical frameworks in order to enhance the relevance and equity of education delivery.

Conceptual Framework:

Figure - Integrating Freire’s Critical Pedagogy into Indian Education Policy Reform



Source: Analysis drawn based on the study

Diagram explanation

Freire's Core Concepts:

- Dialogic Learning emphasizes interaction over one-way teaching.
- Critical Agency promotes learner empowerment through questioning authority.
- Praxis (reflection + action) enables transformation of oppressive systems.

Application to Indian Context:

- Addresses rote learning dominance by advocating dialogue and creativity.
- Counters epistemic dissonance through inclusion of indigenous knowledge and languages.
- Influences policy reform to localize and humanize digital learning and NEP rollouts.

Methodology

This study employs a qualitative, review-based research methodology focused on synthesizing and analyzing existing scholarly literature, policy reports, and theoretical frameworks related to pedagogical paradoxes and epistemic dissonance in Indian education.

Research Design

The research adopts an integrative review design, which enables the synthesis of diverse sources, including peer-reviewed journal articles, government policy documents (e.g., NEP 2020), theoretical contributions (e.g., Freire's critical pedagogy), and empirical studies conducted in the Indian context.

Data Collection

Relevant literature was identified through systematic searches in academic databases and Grey literature, including government reports and NGO publications, was also included to capture applied perspectives.

Data Analysis

The collected literature was subjected to thematic analysis. Studies were categorized under key themes such as digital divide, teacher capacity, curricular flexibility, and indigenous knowledge integration. Patterns, contradictions, and

research gaps were identified and critically examined to construct a coherent narrative linking theory, evidence, and practice.

Challenges in Policy and Praxis

1. Digital Divide and Technological Disparities

It is another pain point for the Digital India initiative as it is anticipated that learning will be democratized due to lack of infrastructure and digital illiteracy which acts as a barrier to entry for various reasons and mostly in rural society (Gupta & Singh, 2021). For example, the average Internet penetration has been below 34% for village household categories and this has made access to the Internet difficult for the student population affected by the ban on online learning (ASER Centre, 2021).

2. Curricular Inflexibility and Cultural Homogenization

One of the major problems is the excessive emphasis on the prefabricated curriculum that results in the lack of local knowledge and alienation from the reality and practical life as against what is taught in school (Kumar 2020). In Jharkhand, for instance, the indigenous history and language are barely expounded in the tribal schools - in consequence, the Adivasi children become further culturally estranged (Nambissan 2019).

3. Capacity Development - Training for teachers

This can be explained because of the lack of pedagogic competences or digital competences of teachers, which would be necessary to gradually re-version towards a blended learning scenario, which would further affect the quality of the teaching (Mishra & Rana, 2019). A survey of ministry done in the year 2020, showed that over 60% of the teachers, in rural India, had shown no use of digital hardware for any pedagogical purpose, and this had left an impact on the success of digital learning (Ministry of Education, 2020).

4. Policy Implementation Gaps

Sharma (2022), writes: Policies as progressive as the NEP 2020 would not have been passed but for the resistance of the bureaucracy and the paucity of funds. For example, individual states do not have the capacity to produce good quality of material, while the NEP language is about mother-tongue usage in education (Jhingran, 2009).

Recommendations for Contextually-Adaptive Educational Counter-Revolution

- **Embracing Critical Pedagogy**

Involving the integration of Paulo Freire's dialogic pedagogy into mainstream classrooms can improve the workshops that promote critical thinking for teachers, empathy, and democratic learning. For instance, Delhi's Happiness Curriculum demonstrates how reflective practices can foster social-emotional learning (Kaur, 2021).

- **Expand and Equitably Deploy Digital Infrastructure**

Invest in localized EdTech tools and teacher professional development. Kerala's Hi-Tech School initiative's success demonstrates the need for hardware deployment coupled with ongoing professional development (Govt. of Kerala, 2021). Growth should target underserved rural and tribal areas.

- **Protect and Promote Indigenous Knowledge Systems**

Integrate tribal histories, languages, and ecological knowledge into dominant curricula to cultivate epistemic justice. Initiatives such as the Eklavya Foundation's tribal narratives-based learning system (Eklavya Foundation, 2019) illustrate the revolutionary capability of culturally based content.

- **Bridge Policy Implementation Gaps**

Establish state-level task forces to customize NEP 2020 according to regional educational ecosystems, with teachers' and community stakeholders' feedback loops. Utilize vernacular languages of communication and training to improve understanding and ownership (Jhingran, 2009).

- **Promoting the Design of Policies Based on the Evidence.**

Generating synergy between the academic researchers and policy think tanks, as well as government, in order to develop policies aligned to ground realities. Finally, Moody also suggests that empirical research related to NEP implementation has the potential to enhance the effectiveness of implementation time frames, training, and resource allocation.

Findings

The paper states that, 'Education in India is swimming in the maze of pedagogical paradoxes and epistemological dissonance in the matrix of dizzying digital transformation and policy reform' where while a policy may demand creativity, critical thinking and digital literacy, pedagogies in classrooms still endorse rote education and testing -

especially in rural and government schools. The gap represents the resistance to reformative pedagogy at the system level. Furthermore, the exclusion of indigenous knowledge systems, local languages and world views from the formal curriculum causes alienation and epistemic disconnection in the students of the marginalized communities, which is the gap between knowledge and experience (also known as epistemic dissonance). Another of the key challenges around reversing scholastic disparity is the digital divide, which, due to infrastructure, a shortage of qualified teachers, and limited access to technology, particularly affects rural and tribal areas. Even the most ambitious initiatives like the NEP 2020 are failing at ground level due to bureaucratic inefficiencies and reluctance to plan at the local level despite the best intentions and the rhetoric of democratizing and inter-disciplinary learning.

In light of the above findings, the research suggests a contextualised reform agenda for making use of critical pedagogy, enhancing school teacher preparation in the field of digital technology applications, and introducing indigenous epistemologies into mainstream education. The policy-practice-pair can be bridged through engagement with community-centred pedagogic theories, with participative policy-making models and enabling role models in the new and open educational technologies, the so-called 'edTech'. Lastly, there is a need to develop an inclusive, culturally responsive and comprehensive education system that strikes a healthy balance between innovation and tradition and empowers India's diverse learners to thrive and succeed in the digital age.

Conclusion

In the context of India, where there is an active dematerialization and digitalization of policy discourses around education, and while the operationalization of policy envisages this, there are possibilities and contradictions as these AI-enabled learning platforms are integrated into schooling systems, more so in a culturally and economically diverse country. Furthermore, despite the provision of online content in multiple languages, teachers' penetration into online content and devices in rural areas is low, and the adoption rate of the DIKSHA platform is, for example, minimal in rural schools. Furthermore, vertical restrictions and centralized control proactively encourages the existing pedagogical practices despite the conceptualization of an integrated and multidisciplinary learning process as a part of the NEP 2020.

Thus, again, such nested complexities lend support for an adaptive (and, critically, engaging) methodology. Pedagogic paradoxes and epistemic dissonance will be negotiated through deliberate interweaving of inclusive pedagogy, technology-mediated pedagogy and indigenous knowledge. With the localisation of digital solutions and the adoption of pluralistic knowledge systems, India stands a good chance of moving towards a more equitable and contextual approach to education - one which celebrates the new as much as the older.

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