

A Comparative Study of the Changes in the Role of Teachers after the New Education Policy-2020, with Reference to the Kota and Bundi Districts of Rajasthan State

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Peer Review Information	Abstract
Type: Article Received: 21 July 2026 Revised: 23 Aug2026 Accepted: 15 Sept 2026 Published: 20 Oct 2026	Background: India's National Education Policy 2020 (NEP 2020) mandates a systemic shift from didactic instruction to competency-based, learner-centered, and technology-integrated pedagogy. While the policy has been rolled out nationally, district-level empirical evidence on how structural contexts mediate teacher adaptation across urban–rural divides remain critically limited. Purpose: This study comparatively investigates the structural determinants of NEP 2020 adaptation among secondary and higher-secondary teachers in Kota (urban) and Bundi (rural) districts of Rajasthan, examining how professional capital accumulation varies by context and mediates reform outcomes. Methods: A concurrent mixed-methods design was employed. Quantitative data were collected from 600 teachers using a validated structured questionnaire grounded in Teacher Professional Capital theory. Qualitative data were gathered through semi-structured interviews with 40 purposively selected teachers. Independent samples t-tests and multiple regression analyses examined district-level differences and predictors of adaptation. Results: Findings reveal statistically significant urban–rural disparities across all three professional capital dimensions: human, social, and decisional. Infrastructure readiness and digital competency showed the largest effect sizes. Human capital emerged as the strongest predictor of adaptation outcomes; social and decisional capital significantly mediated reform sustainability. The adaptation gap appears structurally determined rather than motivationally driven. Conclusions: NEP 2020 implementation requires differentiated, district-responsive policy support. Homogenous reform frameworks risk deepening existing structural inequities. Targeted infrastructure investment, decentralized professional development, and collaborative institutional cultures are essential prerequisites for equitable and sustainable reform outcomes. Keywords: NEP 2020; Teacher Professional Capital; Urban–Rural Disparity; Structural Determinants; Policy Implementation; Rajasthan; Mixed Methods; Educational Reform

How to Cite This Article

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Introduction

Global Context of Teacher Role Transformation

Education systems worldwide are undergoing structural transformation driven by rapid technological advancement, economic globalization, and evolving labor market demands. The role of the teacher is no longer just to transmit knowledge on the subject; teachers are now expected to facilitate inquiry-based learning to help students become critical thinkers, incorporate digital technologies, and assist in their socio-emotional development. Teacher quality has been the most robustly identified in-school predictor of students' achievement, lifetime earnings and non-cognitive skills accumulation in decades of research (Chetty et al., 2014; Jackson, 2012; Rivkin et al., 2013). The primary agents of systemic educational change are the effective teachers who mold academic performance, motivation, behaviour and engagement.

The contemporary international discourse on reform focuses on teacher professionalisation and lifelong learning, and accountability as necessary elements for continual education improvement. Comparative studies show that enhancing the quality of instruction leads to the productivity of a country and ultimately to the social equity. But systemic change must go beyond regulatory requirements to involve coherent alignments with teacher preparation, professional development, and institutional leadership. The studies indicate that without enabling professional ecosystems, reform policies do not lead to classroom practice (Darling-Hammond, 2012, OECD 2013, Schleicher, 2012). Teacher empowerment is thus the fulcrum on which large-scale change in education hangs.

India's National Education Policy 2020

NEP 2020 is the most radical reorganisation of education in India since the policy of 1986. It represents a shift from an education that is restricted to information memorisation and exam-centred learning to an education based on competency, multidisciplinary and learner-centred. Key structural reforms include the Foundational Literacy and Numeracy Mission under NIPUN Bharat, the adoption of a 5+3+3+4 curricular framework, the introduction of technology-integrated platforms such as DIKSHA and SWAYAM, overhauled holistic assessment systems, and the restructuring of teacher education into a four-year integrated B.Ed. program with mandatory Continuous Professional Development (CPD). These changes will require rethinking of teacher identity from 'teacher as a transmitter of knowledge' to a 'facilitator of learning and a reflective professional' (Anitha, 2024; Barrett & Rafi, 2023; Bhat & Girish, 2025).

Preliminary empirical assessments report that there is a wide difference between the levels of policy awareness and readiness to implement across the vast and varied educational landscape in India. Some districts show early developments with digital integration, competency-based pedagogy; others show some serious gaps with infrastructure and professional capacity. Such regional variations also pose broader equity concerns about a country-wide policy while implementing reform in a diverse structural setting (Rangarajan et al., 2025; Gale et al., 2022).

Rationale, Positionality, and Problem Statement

Despite extensive national-level discourse on NEP 2020, district-level empirical evidence on implementation dynamics remains scarce. Literature on educational reform clearly shows that the process of policy translation is deeply "infrastructure dependent," and relies on local institutional leadership, teacher deployment, and socio-economic conditions. Rajasthan offers an interesting comparative perspective. Kota is a well-known coaching and private education hub, a high institutional density, a strong private sector presence, and a well-developed urban infrastructure. By contrast, Bundi is a rural district, traditionally under-resourced and also reliant on government school systems and with limited access to digital resources. This structural difference provides for careful comparison of the ways in which contextual factors influence teacher responses to the demands of NEP 2020.

The lead person is from Career Point University, Kota. The presence of one study district offers interpretive risk together with contextual familiarity. To reduce this, all transcripts were member checked with a selection of the participants and peer de-briefed with academic colleagues outside of both districts. To ensure transparency in decision making, reflexive documentation was carried out throughout the analytical process (Grossman & McDonald, 2008; Darling-Hammond et al., 2017).

Thus, the central research question for this study is: Do urban-rural structural conditions fundamentally mediate teacher professional capital accumulation under NEP 2020 and are observed adaptation disparities structurally rather than motivatingly determined? The study contributes in three ways: it is one of the first empirical district level comparative studies of NEP 2020 adaptation in Rajasthan; it operationalizes Teacher Professional Capital theory to quantify adaptation in human, social, and decisional domains; and it provides policy relevant empirical evidence to design equitable and differentiated reform strategies at the district and state level (Hargreaves & Fullan, 2012; Hanushek & Woessmann, 2012).

Review of Literature

NEP 2020 and Teacher Role Redefinition

NEP 2020 fundamentally repositions teachers as facilitators of competency-based, multidisciplinary, and technology-integrated learning rather than transmitters of standardized information. The policy reviews confirm an ambitious reform vision with an equity focus, yet note

that for a successful implementation, teachers need to be well informed about the concept and the institutions need to be well prepared. Teacher transformation in NEP 2020 is not just about instructional redesign, but also a transformation of the teacher's professional identity – as a mentor, inclusive practitioner, and collaborative community member within communities of learning (Anitha, 2024; Barrett & Rafi, 2023; Bhat & Girish, 2025; Rangarajan et al., 2025).

The international evidence to support this teacher-centred approach to reform is very strong. Teacher effectiveness is consistently found to be a key determinant of student achievement, future earnings and non-cognitive development (Chetty et al., 2014; Blazar & Kraft, 2017; Jackson, 2012). The results highlight the need for policy ambition to be matched by investments in teacher capacity for substantive classroom change. Without a professional capacity building mechanism, symbolic or compliance-driven reform is the least effective in bridging the policy-to-practice divide.

Teacher Professional Development and Professional Capital

NEP 2020 mandates structured CPD on the premise that policy awareness alone does not produce instructional change. Longitudinal studies show that lasting and pedagogically relevant professional development can be more impactful and transformative than short-term, one-shot, or compliance-based PD cycles (Avalos, 2011; Darling-Hammond et al., 2017; Opfer & Pedder, 2013). Effective CPD is content-rich, participative, reflective and supportive, with a focus on developing professional confidence and the capacity for instructional innovations.

Teacher Professional Capital serves as the theoretical structure that explains reform adaptation. The framework is composed of three interdependent dimensions—human capital (individual knowledge, skills and qualifications), social capital (professional networks, peer trust and institutional culture), and decisional capital (professional judgment, autonomy, and context-sensitive instructional choices). Development in all three forms is needed to achieve reform in sustainability; improvements in one form without supporting institutional conditions only provide limited or short-term reform. More important, compliance based CPD regimes which focus on what the regulators want rather than what professionals want to learn together run the risk of stifling decisional capital and hampering pedagogical experimentation required for real reform (Hargreaves & Fullan, 2012; Johnson et al., 2012; OECD, 2013).

Urban–Rural Disparities, Accountability, and Reform Sustainability

Urban–rural disparities in infrastructure, digital connectivity, teacher deployment patterns, and professional network access represent persistent structural features of many education systems, including India's. In rural districts, factors like multigrade classrooms, lack of subject expertise, infrastructure gaps, and limited access to ICTs limit teacher capacity to effectively engage with technology-integrated and competency-based reforms (Gale et al., 2022; Barrett & Rafi, 2023; OECD, 2014). These structural factors, in the absence of targeted support, result in a unique set of barriers to implementation for highly motivated rural teachers, compared to their urban counterparts. The collaborative climate and leadership of schools are strongly associated with teacher retention and the continuity of school reform efforts; high teacher turnover rates and limited resources are associated with less professional capital accumulation and institutional continuity (Ronfeldt et al., 2013; Allen et al., 2012; Johnson et al., 2012).

The implementation of accountability systems along with the reform creates other challenges in low resource environments. The research found that systems of assessment that lead to transparency and standards alignment, with the added element of explicit professional development support, can have a positive effect on instructional quality. Yet, such strict compliance systems in low-resource institutional settings have a tendency to stifle innovation, impose additional burdens on administrators and teachers, and drive down teacher morale without actually making significant pedagogical changes (Darling-Hammond, 2012; OECD, 2013; Muralidharan & Sundararaman, 2011). Effective reform accountability therefore must be contextually calibrated so that it encourages professional growth rather than holds up a mirror to capacity gaps.

Research Gap

Based on the literature that exists, it is clear that teacher quality lies at the core of educational change, that teacher professional capital is a key factor in the sustainability of change, and that the urban–rural structure plays a significant role in shaping the instructional environment and readiness for change. Despite this, there is a lack of empirical comparative work at the district level on the implementation of NEP 2020, and peer-reviewed comparative research examining the dynamics of structural implementation specifically in Kota and Bundi has been almost absent in the literature. The importance of this gap lies analytically: policy success is not only defined by national mandates but also by localised processes of translation in heterogeneous institutional settings. This study aims to provide an empirically grounded understanding of how the structural context influences teacher role transformation under NEP 2020, thereby contributing to the international debates on decentralised reform and educational equity (Grossman & McDonald, 2008; Hargreaves & Fullan, 2012; Anitha, 2024).

Theoretical Framework

Teacher Professional Capital as the Primary Analytical Lens

This study is grounded in Teacher Professional Capital theory, which conceptualizes teacher effectiveness as the dynamic interaction of human, social, and decisional capital within an institutional ecosystem, rather than reducing instructional quality to individual teacher competence alone. Human capital includes the knowledge of the content, teaching skills, and formal credentials. Social capital includes sharing networks of professionals, mutual trust among peers, and organisational culture. Decisional capital is the development of teacher professional judgement, autonomy and the ability to make context dependent instructional decisions that comes from experience and reflection. To ensure that reform is sustainable, it must be balanced across all three capital forms; to improve one dimension without paying attention to the institutional conditions that facilitate the other dimensions will generally result in limited and temporary change (Hargreaves & Fullan, 2012; Avalos, 2011; Darling-Hammond et al., 2017).

Human capital is measured for this study as NEP 2020 Awareness, Digital competency and CPD participation rates. Social capital is assessed by means of collaborative lesson planning frequency, peer mentoring involvement, and institutional trust. Decisional capital is understood by self-efficacy in implementing competency-based pedagogy, self-efficacy in implementing a holistic assessment model, and perceived instructional autonomy. Comparing these capital dimensions systematically across urban Kota and rural Bundi can then enable empirical testing of whether there are contextual disparities in the structural processes of professional capital accumulation and, therefore, reform uptake (Johnson et al., 2012; Ronfeldt et al., 2013).

Educational Change Theory and Conceptual Model

To supplement the structural orientation of professional capital theory, this study draws on educational change theory, which posits that policy implementation progresses through stages of initiation, implementation, and institutionalization. Reform processes are not linear, but rather are associated with transitional uncertainty, moments of resistance, and then a dip in the implementation when stabilization happens. There has to be coherence between the policy mandate, the institutional leadership capacity and the teacher professional development in order to make effective and lasting change. In the absence of this kind of structural alignment, policy translation produces only superficial and not substantive pedagogical change (Grossman & McDonald, 2008; OECD, 2014; Schleicher, 2012). Systems that provide a balance between accountability and professional trust and collaborative learning are more likely to generate longer-term outcomes than compliance-monitoring systems.

This study adopts a conceptual model where the NEP 2020 policy requirements are the impetus for teacher role transformation. The demands are mediated by the urban (Kota) and rural (Bundi) structure that present significant differences in infrastructure, institutional capacities, density of professional networks, and socio-economic conditions. These contextual variables act as mediators in the development of professional capital in human, social, and decisional dimensions and ultimately impact the perceived implementation challenges and opportunities and the extent and quality of the classroom level change. Importantly, the model assumes that the adaptation gaps observed are structurally generated due to the unequal accumulation of capital and not because of variations in teacher motivation and professional commitment, which is an important hypothesis tested empirically in this study (Hargreaves & Fullan, 2012; Chetty et al., 2014).

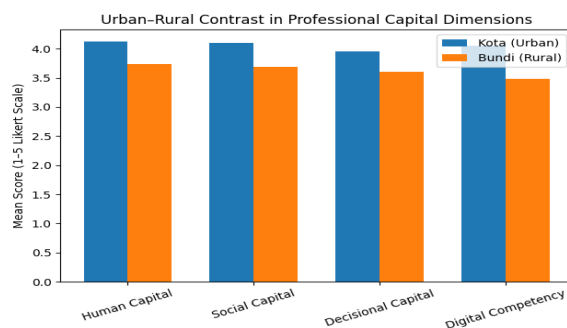


Fig. 1. Conceptual Model of Urban–Rural Mediation of Teacher Professional Capital in NEP 2020 Adaptation

Figure 1 shows the conceptual framework that directs the current study by showing how NEP 2020 policy requirements are mediated based on the urban and rural setting and then affect teacher role transformation. This model places contextual setting Kota (urban) and Bundi (rural) as structural filters that influence how teacher professional capital is developed in human, social and decisional levels.

Research Methodology

Research Design

Data collection was based on a concurrent mixed-methods design, so that quantitative survey findings could guide the statistical generalisation, and qualitative interview findings provide context. A cross sectional ex post facto comparative structure was used, two

naturally occurring groups were compared ex post facto (urban teachers in Kota, rural teachers in Bundi) without experimental manipulation. This is a suitable design for the study of structural variation in the implementation of policy in heterogeneous institutional contexts (Avalos, 2011; Grossman & McDonald, 2008; Schleicher, 2012).

Population, Sampling, and Sample Size

The target population comprised all serving secondary (Classes IX–X) and higher-secondary (XI–XII) teachers in government and private schools and colleges in Kota and Bundi, as listed in the UDISE+ 2022–23 database, with at least one academic year of experience under NEP 2020 guidelines. Stratified proportional random sampling yielded a final sample of 600 teachers: 300 from Kota and 300 from Bundi, each comprising 100 government school teachers, 100 private school teachers, 50 government college teachers, and 50 private college teachers. Sample size was determined using Cochran's (1977) formula at 95% confidence and $\pm 5\%$ margin of error ($n_0 = Z^2pq/e^2$; $Z = 1.96$, $p = q = 0.5$, $e = 0.05$), yielding a minimum of approximately 384. Expanding to 600 strengthened statistical power above 0.80 for detecting medium effect sizes (Cohen's $d \approx 0.4$ – 0.5) and enabled subgroup analyses across institution types (Chetty et al., 2014; Hanushek & Woessmann, 2012).

Instruments and Data Collection

A structured Likert scale questionnaire (1 – 5) was designed, validated and covered eight domains: demographic profile, NEP awareness, infrastructure readiness, access to CPD, curriculum and pedagogical adaptation, digital competency, perceived challenges, and perceived opportunities. Theoretical mapping of items to constructs of human, social and decisional capitals. Content validity was obtained by having it reviewed by five senior faculty in the field of educational policy. Exploratory Factor Analysis was used to confirm the construct validity. Cronbach's alpha was greater than 0.80 for all the sections.

A purposive sample of 40 teachers (10 teachers per sub-group: urban government, urban private, rural government, rural private) were asked to participate in the semi-structured interviews which lasted between 45 and 60 minutes each. Audio-recorded and transcribed verbatim, Hindi responses were translated to English. The interviews revealed lived experiences, institutional culture, and perceived autonomy that would not be conveyed through the survey items alone (Smith & Gorard, 2020; Grossman & McDonald, 2008). Data collection was done after the formal consent from the District Education Officers of both districts. A pilot study was conducted with 60 teachers (30 teachers per district) and the results were used to clarify and revise the items for consistency. Questionnaires were administered using both digital (Google Forms) and print to account for connectivity issues. Ethics safeguards were put in place to protect the voluntary participation of the learners, informed consent, anonymization of data and confidential storage (Darling-Hammond et al., 2017; Johnson et al., 2012).

Data Analysis

Quantitative data were analyzed using descriptive statistics, independent samples t-tests, and multiple regression analysis, with assumptions of normality, equal variance, and multicollinearity verified prior to inferential analysis. Qualitative transcripts underwent thematic analysis using both inductive and deductive coding mapped to professional capital constructs. Two independent coders reviewed transcripts; disagreements were resolved by consensus. Quantitative and qualitative results were integrated at the interpretation stage, enabling triangulation and enhanced explanatory coherence.

Results and Data Analysis

Demographic Equivalence and Group Comparability

The final sample ($N = 600$) was evenly distributed between Kota ($n = 300$) and Bundi ($n = 300$). Independent samples chi-square tests confirmed no statistically significant differences in gender composition, years of teaching experience, institutional affiliation, or subject specialization across the two district groups. The majority of respondents in both districts held postgraduate qualifications and reported over ten years of classroom experience. This demographic equivalence is analytically important: it establishes that subsequent urban–rural differences in professional capital indicators and adaptation outcomes cannot be attributed to compositional differences in sample characteristics, supporting their interpretation as structurally mediated contextual effects (Johnson et al., 2012; Allen et al., 2012; Ronfeldt et al., 2013).

Urban–Rural Differences in Professional Capital Dimensions

Independent samples t-tests revealed statistically significant urban–rural differences (all $p < .001$) across all five measured professional capital indicators, with effect sizes ranging from moderate to large. Urban teachers in Kota consistently reported higher mean scores on NEP 2020 awareness, digital competency, CPD participation, social capital, and decisional capital. The largest gap was observed in digital competency (Cohen's $d = 0.78$), underscoring infrastructure and technology access as the most pronounced structural distinction between districts. Kota teachers have higher social capital scores, which are indicative of stronger collaborative professional cultures and access to institutional support. Notably, while Bundi teachers' scores were lower than urban teachers' scores on all dimensions, mean scores were yet still higher than the midpoint on the scales, indicating that even in the face of structural limitations, teachers in both groups were actively

engaged in reform and truly motivated to go the extra mile. It is at the heart of the argument that gaps in adaptation are structurally, not motivationally, produced as carried out by the study.

Table 1. Urban–Rural Comparison of Key Variables

Variable	Kota (Urban) Mean (SD)	Bundi (Rural) Mean (SD)	t (df=598)	p-value	Cohen's d
NEP Awareness	4.12 (0.56)	3.74 (0.63)	7.41	< .001	0.63
Digital Competency	4.05 (0.61)	3.48 (0.72)	9.02	< .001	0.78
CPD Participation	3.98 (0.59)	3.52 (0.66)	8.15	< .001	0.70
Social Capital	4.10 (0.54)	3.69 (0.60)	7.86	< .001	0.68
Decisional Capital	3.95 (0.62)	3.61 (0.64)	6.12	< .001	0.52

Table 1 shows that urban teachers have consistently and significantly higher levels of professional capital in each of the five dimensions. The effect sizes (Cohen's $d = 0.52$ to 0.78) suggest that these differences are not just statistically significant, but also have a meaningful effect size. The biggest gap in digital competency reflects infrastructure disparity as the most salient structural limitation in equitable adaptation of reforms.

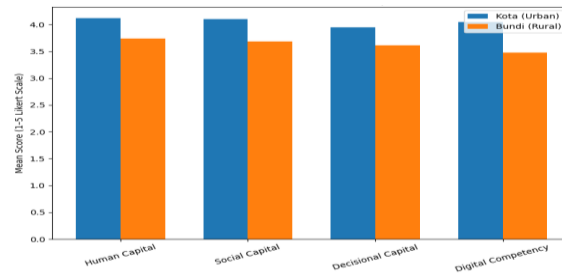


Fig. 2. Urban–Rural Contrast in Professional Capital Dimensions Between Kota and Bundi

Figure 2 graphically illustrates the difference between urban and rural teachers in the major dimensions of professional capital.

Infrastructure Readiness, CPD Access, and Decisional Capital

The widest urban–rural inequalities were found in infrastructure readiness and digital competency. Bundi teachers also reported a much lower level of access to reliable internet connection, digital devices and institutional support for ICT. Considering the fact that NEP 2020 is a policy document on technology integrated learning with the adoption of platforms like DIKSHA and SWAYAM, these infrastructure gaps are systemic structural gaps and not individual gaps. Qualitative interviews confirmed the survey results: rural teachers often reported difficulties with connectivity, lack of hardware and no institutional technical support as real obstacles to successful technology use. The results of regression analysis confirmed that digital competency has a direct impact on adaptation results, but that it does not fully explain the results, as other human capital indicators also play a role in the effective implementation of digital competency (Hanushek & Woessmann, 2012; OECD, 2013). For urban teachers, there was also a significantly greater amount of formal CPD participation as well as opportunities for collaborative professional practice. There were significant differences in social capital measures, such as collaborative lesson planning, peer mentoring involvement, and institutional trust, in favor of Kota. Qualitative information from rural teachers often noted the lack of peers with whom to make decisions and/or learn as a major barrier to social and decisional capital development, creating professional isolation. Moderate but statistically significant differences between urban and rural schools in decisional capital were found in perceived autonomy in instructional decisions. Urban teachers were more confident adapting content and working with a more holistic assessment approach in the context of NEP 2020. Rural educators endorsed the goals of reform but often doubted how much freedom they had to act within the parameters they were provided (Darling-Hammond, 2012; OECD, 2013; West & Woessmann, 2017); that is, they reported low levels of decisional capital, which is the freedom to make choices within a defined set of parameters or guidelines.

Regression Analysis: Predictors of NEP 2020 Adaptation

Table 2. Multiple Regression Predicting NEP Adaptation

Predictor	B	SE	β	t	p
Human Capital	0.48	0.05	0.52	9.60	< .001
Social Capital	0.29	0.06	0.31	5.82	< .001
Decisional Capital	0.21	0.05	0.24	4.11	< .001

The multiple regression model explained 61% of the variance in self-reported NEP 2020 adaptation outcomes ($R^2 = .61$), indicating strong overall explanatory power. Human capital emerged as the dominant predictor ($\beta = 0.52$, $p < .001$), confirming that policy literacy, digital competency, and CPD exposure are foundational drivers of reform uptake. Social capital contributed a significant independent effect ($\beta = 0.31$, $p < .001$), demonstrating that collaborative professional networks and institutional trust meaningfully amplify individual adaptation capacity beyond what personal competence alone can achieve. Decisional capital also registered a statistically significant independent contribution ($\beta = 0.24$, $p < .001$), highlighting the role of perceived professional autonomy and instructional self-efficacy in translating policy mandates into authentic classroom practice. Collectively, these results confirm that NEP 2020 adaptation is genuinely multidimensional, requiring the simultaneous development of personal competence, collaborative culture, and professional judgment rather than any single isolated factor (Hargreaves & Fullan, 2012; Smith & Gorard, 2020; Opfer & Pedder, 2013).

Perceived Challenges and Opportunities

Challenges were perceived differently across district profiles and opportunities were more similar. Rural Bundi teachers reported significantly higher barriers of infrastructure, and resources including unreliable electricity, limited hardware, and limited access to print materials aligned with NEP. Urban Kota teachers were more likely to cite challenges related to workload pressures and a mismatch between holistic assessment requirements and a continued culture of exams in institutions. Despite such varying challenge profile, both groups shared similarly favourable perceptions around NEP 2020's future potential to transform, with a strong focus on competency-based learning, multidisciplinary learning and all-round student assessment. There was little difference between the districts in opportunity perception scores, which were high in both. One of the most analytically important findings of the study is that this convergence in motivational orientation is accompanied by a divergence in structural capacity: adaptation gaps depend less on differential professional commitment or reform enthusiasm (Muralidharan & Sundararaman, 2011; Hanushek & Woessmann, 2012; OECD, 2014) and more on systemic inequity in resources and institutional support.

Discussion

The Urban–Rural Adaptation Gap: Structural, Not Motivational

The results show that there is a significant influence of urban – rural differences on NEP 2020 adaptation in the two cities of Kota and Bundi. Consistent differences in human, social, and decisional capital are evident in the statistical results, which are in favor of urban teachers. Importantly, qualitative evidence suggests there are no motivationally driven differences. Educators in both districts expressed support for NEP 2020's vision of learner-centred thinking and practice; structural conditions mediated educators' capacity to implement. This is analytically important, as reform talk often suggests that unequal outcomes are due to teacher resistance, and not to inequality in context (Hargreaves & Fullan, 2012; OECD, 2014). These findings are consistent with international evidence that the adoption of reforms is institutionally constrained: strong infrastructure, access to CPD, and leadership support in Kota helps translate reforms into practice, while lack of resources in Bundi systematically undermines the commitment of teachers (West & Woessmann, 2017; Johnson et al., 2012).

Professional Capital as Reform Mediator

The statistical success of adaptation was human capital with policy literacy, digital skills and CPD exposure as the foundations to reform uptake. This, was compounded by social and decisional capital, confirming that individual competence is not enough to make a positive change. Professional ecosystems in which urban teachers could learn from each other and institutional trust developed compounded their reform advantage. Professional capital theory also highlights the interdependence of capital forms, which also translated to the rural teachers, who had limited opportunities to deploy capital as a consequence of the infrastructure deficits and isolation (Darling-Hammond, 2012; Hargreaves & Fullan, 2012; Opfer & Pedder, 2013).

Infrastructure, Accountability, and Reform Phase

NEP 2020's technology-integration objectives presuppose baseline connectivity and hardware availability that rural Bundi cannot yet guarantee. These material bases are necessary to ensure that policy targets become more than just aspirations and are put into action. Reform accountability frameworks should thus take the current capacity constraints into consideration; otherwise, applying uniform evaluation systems in non-equivalent contexts can exacerbate, rather than mitigate, structural inequities (Hanushek & Woessmann, 2012; West & Woessmann, 2017; Darling-Hammond, 2012).

Using the framework of educational change theory, it can be assumed that Kota and Bundi are at various stages of reforms: Kota teachers are likely at the institutionalization stage where they enjoy a higher level of autonomy and collaboration; Bundi teachers are at the implementation stage where structural barriers hinder their autonomy and collaboration. Qualitative data revealed leadership quality a major mediating factor, with teachers in schools reporting active support of principals expressing higher confidence in experimentation with policy. This helps to remind one that systemic change doesn't merely happen through policy directives, but is the result of coordinated investments in professional capital and organizational culture (Grossman & McDonald, 2008; Darling-Hammond et al., 2017; Johnson et al., 2012).

Educational Implications

Policy Makers and State Education Authorities

The statistically significant, moderate-to-large urban–rural disparities documented in this study confirm that homogenous NEP 2020 implementation frameworks risk inadvertently reinforcing and widening existing structural inequities. State education authorities need to adopt truly contextualized models of implementation where resource allocations, professional development provision, and timelines for accountability are differentiated based on the capacity assessments of districts and do not rely on a one-size-fits-all approach at the national level. The creation of district-level NEP monitoring cells with disaggregated performance indicators would allow for targeted intervention, and real-time tracking of adaptation progress in the diverse context of NEP. A reliable internet, digital devices and institutional ICT support are important prerequisites for the technology integrated pedagogy NEP 2020 imagines, and thus should be prioritized for investment in rural districts (Hanushek & Woessmann, 2012; OECD, 2014; Schleicher, 2012).

Teacher Education and Professional Development Systems

Pre-service and in-service teacher education programs must be substantively realigned with NEP 2020's competency-based and multidisciplinary vision. It is recommended that the four-year integrated B.Ed. include both experiential learning modules and pedagogy practice through simulation as an integral part of the programme and not as an add-on. In-service CPD should not only be a policy awareness event, but should seek to promote pedagogical change over time by means of sustained mentoring, collaboration and reflective practice cycles. There is a consistent body of research that shows that contextually embedded, long-term CPD results in more enduring instructional change than CPD aimed at compliance through short-term workshops (Avalos, 2011; Darling-Hammond et al., 2017; Opfer & Pedder, 2013).

CPD delivery needs to be decentralised and 'access sensitive' especially for rural districts. The combination of block and cluster level training hubs and hybrid learning models (digital and offline) can significantly minimize participation barriers. Professional Learning Communities (PLCs) that are formed within and across schools can enhance social capital by make the process of adopting reforms a peer-supported collaborative effort, which is seen as a key factor in determining adaptation outcomes (Hargreaves & Fullan, 2012; Smith & Gorard, 2020).

School Leadership and Equity-Oriented Reform Implementation

School leadership emerged consistently in qualitative findings as a critical mediator of reform translation. Principals and head teachers need to be built up as instructional leaders that are able to create a professional trust, share leadership responsibility, reduce unnecessary administrative burden and ensure that school-level practices are aligned with the competency-based frameworks in NEP 2020. A distributed leadership approach to teacher professional development is essential in which teachers are supported to make professional judgements within an institutional context. In urban Kota, leadership should focus on balancing holistic assessment reforms with the dominant cultures of examination focused academics. In rural Bundi, the focus needs to be on active advocacy for infrastructure, peer mentoring structures and collaborative networks of professionals that counter structural constraints on resources (Darling-Hammond, 2012; Johnson et al., 2012; OECD, 2013).

The overall message of this study is clear: It is not a problem of teachers' motivation, it is a problem of structural inequity that prevents the implementation of NEP 2020. This requires intentional investments at the district level to professional capital formation, intentional timelines for implementation to be stepped up in line with attested local capacities, and accountability systems that take into account professional development rather than penalization for lack of capacity (Anitha, 2024; Bhat & Girish, 2025; Barrett & Rafi, 2023; Rangarajan et al., 2025).

Limitations and Future Research

Limitations

This study is geographically limited to two Rajasthan districts; findings represent localized evidence not generalizable to other districts or states with different socio-economic and governance profiles. The cross sectional design allows the perception of the situation at one point in time, and the implementation of NEP 2020 is dynamic and evolving, longitudinal data would allow a more robust assessment of whether adaptation gaps are narrowing as infrastructure and CPD systems develop. There is a potential for social desirability bias to the self-reported survey data; triangulation with classroom observation or analysis of student performance data would help to further build internal validity.

Directions for Future Research

Potential research is to expand this framework with longitudinal cohort designs to follow the same teachers over three to five years across phases of reform to track development of professional capital. Comparisons across multiple districts or multiple states would provide greater generalizability and allow for typologies of district-level reform preparedness. Including student outcome measures would help to make causal inferences about the effect of teacher role transformation. Further intersectional analysis could be conducted using gender-disaggregated and subject-specific analyses, which may show additional relationships, especially in rural districts where women teachers might be structurally constrained in different ways.

References

1. Allen, R., Burgess, S., & Mayo, J. (2012). The teacher labour market, teacher turnover and disadvantaged schools: New evidence for England. *Educational Research*, 54(4), 369–385. <https://doi.org/10.1080/00131881.2012.734725>
2. Anitha, N. V. (2024). Evaluating the implementation of the National Education Policy (NEP) 2020: Challenges, opportunities, and impact on the Indian education system. *International Journal of Teacher Education Research Studies*, 1(1), 1–22. <https://doi.org/10.5281/zenodo.14512548>
3. Avalos, B. (2011). Teacher professional development in teaching and teacher education over ten years. *Teaching and Teacher Education*, 27(1), 10–20. <https://doi.org/10.1016/j.tate.2010.08.007>
4. Barrett, A. M., & Rafi, A. (2023). Inclusion and equity in India's new National Education Policy (NEP 2020): A policy analysis. *Compare: A Journal of Comparative and International Education*, 53(4), 590–607. <https://doi.org/10.1080/03057925.2022.2295907>
5. Bhat, A., & Girish, A. (2025). Evaluating the promise and pitfalls of India's National Education Policy 2020: Perspectives of teachers and stakeholders. *SAGE Open*, 15(1). <https://doi.org/10.1177/21582440241279367>
6. Blazar, D., & Kraft, M. A. (2017). Teacher and teaching effects on students attitudes and behaviors. *Educational Evaluation and Policy Analysis*, 39(1), 146–170. <https://doi.org/10.3102/0162373716670260>
7. Chetty, R., Friedman, J. N., & Rockoff, J. E. (2014). Measuring the impacts of teachers I: Evaluating bias in teacher value-added estimates. *American Economic Review*, 104(9), 2593–2632. <https://doi.org/10.1257/aer.104.9.2633>
8. Darling-Hammond, L. (2012). Creating a comprehensive system for evaluating and supporting effective teaching. *Education Policy Analysis Archives*, 20(8). <https://doi.org/10.14507/epaa.v20n8.2012>
9. Darling-Hammond, L., Flook, L., Cook-Huffman, V., Barron, B., & Osher, D. (2020). Implications for educational practice of the science of learning and development. *Applied Developmental Science*, 24(2), 97–140. <https://doi.org/10.1080/10888691.2018.1537791>
10. Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017). *Effective teacher professional development*. Learning Policy Institute. <https://doi.org/10.54300/122.311>
11. Dolton, P., & Marcenaro-Gutierrez, O. (2017). The global teacher shortage: Key findings and policy implications. *Journal of Teacher Education*, 68(3), 207–221. <https://doi.org/10.1177/0022487117690553>
12. Gale, L., Bhushan, P., Eidnani, S., Graham, L., Harrison, M., McKay-Brown, L., Pande, R., Shreeraman, S., & Sivashunmugam, C. (2022). Overcoming barriers to inclusion in education in India: A scoping review. *Social Sciences & Humanities Open*, 5, 100237. <https://doi.org/10.1016/j.ssaho.2021.100237>
13. Grossman, P., & McDonald, M. (2008). Back to the future: Directions for research in teaching and teacher education. *American Educational Research Journal*, 45(1), 184–205. <https://doi.org/10.3102/0002831207312906>
14. Hanushek, E. A., & Woessmann, L. (2012). Do better schools lead to more growth? Cognitive skills, economic outcomes, and causation. *Journal of Economic Growth*, 17(4), 267–321. <https://doi.org/10.1007/s10887-012-9081-x>
15. Hargreaves, A., & Fullan, M. (2012). Professional capital and school improvement. *Journal of Professional Capital and Community*, 1(1). <https://doi.org/10.1108/JPCCC-12-2015-0013>
16. Jackson, C. K. (2012). Non-cognitive ability, test scores, and teacher quality: Evidence from 9th grade teachers in North Carolina. *Review of Economics and Statistics*, 94(4), 1018–1035. https://doi.org/10.1162/REST_a_00236
17. Johnson, S. M., Kraft, M. A., & Papay, J. P. (2012). How context matters in high-need schools: The effects of teachers working conditions on professional satisfaction and student achievement. *Teachers College Record*, 114(10), 1–39. <https://doi.org/10.1177/016146811211401004>
18. Loeb, S., Kalogrides, D., & Bételle, T. (2012). Effective schools: Teacher hiring, assignment, development, and retention. *Education Finance and Policy*, 7(3), 269–304. https://doi.org/10.1162/EDFP_a_00068
19. Muralidharan, K., & Sundararaman, V. (2011). Teacher performance pay: Experimental evidence from India. *American Economic Review*, 101(3), 1–6. <https://doi.org/10.1257/aer.101.3.1>
20. OECD. (2013). *Synergies for better learning: An international perspective on evaluation and assessment*. OECD Publishing. <https://doi.org/10.1787/9789264190658-en>
21. OECD. (2014). *TALIS 2013 results: An international perspective on teaching and learning*. OECD Publishing. <https://doi.org/10.1787/9789264196261-en>
22. Opfer, V. D., & Pedder, D. (2013). Conceptualizing teacher professional learning. *Review of Educational Research*, 81(3), 376–407. <https://doi.org/10.3102/0034654311413609>
23. Rangarajan, R., Sharma, U., & Grové, C. (2025). Inclusion and equity in India's new National Education Policy (NEP): An analysis using the context-led model of education quality. *International Journal of Inclusive Education*, 29(6), 975–995. <https://doi.org/10.1080/13603116.2023.2295907>
24. Rivkin, S. G., Hanushek, E. A., & Kain, J. F. (2005). Teachers, schools, and academic achievement. *Econometrica*, 73(2), 417–458. <https://doi.org/10.1111/j.1468-0262.2005.00584.x>
25. Ronfeldt, M. (2012). Where should student teachers learn to teach? Effects of field placement school characteristics on teacher retention and effectiveness. *Educational Evaluation and Policy Analysis*, 34(1), 3–26. <https://doi.org/10.3102/0162373711420865>
26. Ronfeldt, M., Loeb, S., & Wyckoff, J. (2013). How teacher turnover harms student achievement. *American Educational Research Journal*, 50(1), 4–36. <https://doi.org/10.3102/0002831212463813>

27. Schleicher, A. (2012). *Preparing teachers and developing school leaders for the 21st century: Lessons from around the world*. OECD Publishing. <https://doi.org/10.1787/9789264174559-en>
28. Smith, K., & Gorard, S. (2020). Teachers professional development in formal online communities: A scoping review. *Teaching and Teacher Education*, 95, 103156. <https://doi.org/10.1016/j.tate.2020.103156>
29. West, M. R., & Woessmann, L. (2017). School accountability, autonomy, and teacher quality improvements. *Economics of Education Review*, 60, 116–131. <https://doi.org/10.1016/j.econedurev.2017.08.001>