

Sentiment Analysis of the National Education Policy (NEP) 2020

Author- Dr. Harsh Kushwaha

PhD- Jawaharlal Nehru University, Assistant Professor at St. Thomas' College of Law,
Greater Noida, India

ORCID: 0009-0008-0276-5660

Abstract: The National Education Policy (NEP) 2020 marks a transformative moment in India's education system, seeking to reform the system from early childhood education to higher learning and research. While the policy has been analysed through pedagogical, political, and administrative perspectives, not much attention has been paid to the underlying sentiment and tone of the document itself. Policy documents are not merely technical instruments but they also serve as vehicles of vision, aspiration, and ideology. This study applies sentiment analysis, a computational linguistic method, to examine how NEP 2020 constructs its rhetorical positioning. By quantifying polarity and subjectivity across its chapters, the research highlights the distribution of positive, neutral, and aspirational language within the policy framework.

Keywords: NEP 2020, sentiment analysis, education policy, computational text analysis.

I. Introduction

The National Education Policy (NEP) 2020 represents a significant reform in India, reshaping the education ecosystem from early childhood through higher learning and research. Framed as an all-encompassing blueprint, NEP 2020 introduces structural changes (such as the 5+3+3+4 model), seeks to strengthen foundational literacy and numeracy, and aims to foster multidisciplinary, flexible, and outcome-oriented education systems. In particular, the policy emphasizes equity, inclusion, mother-tongue instruction, vocationalization, and digital infrastructure among its core goals (Education for All in India, 2025). Such sweeping reformative ambitions are not merely technical but contain layers of ideology, vision, and normative framing, which merit careful examination.

Though scholars and policy commentators have focused on the content of NEP 2020, its proposals for curriculum and pedagogy, its recommendations for teacher training, or its institutional restructuring however relatively less attention has been devoted to how the policy frames its own rhetoric and tone. How does the policy present its ideals? Where is it aspirational, and where is it cautious or technical? What language does it use to signal authority, hope, responsibility, or urgency? These questions are important because policy documents are not just planning; they are communicative

artefacts that both reflect and shape political values, stakeholder expectations, and institutional legitimacy.

Sentiment analysis, a branch of computational linguistics, offers tools to systematically measure the tone of texts quantifying their positivity or negativity (polarity) and the degree to which they are subjective versus objective. Employing such methods on NEP 2020 makes it possible to map how different sections of the policy shift in tone: for instance, vision statements vs implementation details; normative value-laden sections vs technical or administrative passages. This enables insights into the rhetorical strategy embedded in NEP 2020, how it balances vision with feasibility, ideals with constraints.

Existing assessments of NEP 2020 often highlight its visionary and aspirational elements: for example, its aim to ensure holistic, competency-based education, greater inclusion of socially and educationally disadvantaged groups, and emphasizing multilingualism and mother tongue instruction (The Probe, 2025; Education for All in India, 2025). Critics, however, raise concerns about gaps between ambition and capacity in terms of teacher training, infrastructure, funding, and state-level implementation (Education for All in India, 2025; Firdosh Khan, 2025). These discourses underscore not just what the policy intends but how it convinces, motivates, and justifies itself, which is where sentiment and tone become relevant analytic dimensions.

The present study applies sentiment analysis to NEP 2020, segmenting the policy into its constituent chapters and analysing each section for polarity (positive-negative tone) and subjectivity (objective-subjective framing). The goal is two-fold: first, to chart the distribution of rhetorical tone across the policy (does the introduction carry more positivity than, say, financing or implementation sections?); second, to understand how the policy uses tone to navigate between inspiration and pragmatism. By quantifying sentiment, the study seeks to make visible patterns that are often implied but not made explicit in qualitative readings of the NEP.

In doing so, this study contributes to literature at the intersection of education policy and discourse analysis, offering a computational lens on policy rhetoric. While prior work has examined NEP's content, stakeholder engagement, implementation challenges, and political implications (e.g. critiques of inclusion, concerns about centralization, funding gaps) (Equitable & Inclusive Vision, ORF; Unpacking NEP, The Probe; Review of NEP 2020-2025, Education for All in India), comparatively few studies have provided a chapter-wise mapping of tone. This research, therefore, not only supplements those content and implementation analyses but also provides a methodology and empirical results which revealshow NEP positions itself as a document of ambition, responsibility, and realism.

Finally, understanding these rhetorical patterns is not merely academic: tone shapes how policies are received by stakeholders such as teachers, states, parents, and students and influences legitimacy, commitment, and implementation. In a federal

polity such as India's, where policy must be executed across states with diverse capacities and values, the manner in which NEP 2020 presents itself (aspirational vs technical) may affect both perception and practice. This study thus aims to illuminate these patterns, offering a foundation for deeper explorations of policy rhetoric, comparative education policy, and the ideological underpinnings of reform.

II. Methodology

The study employed a computational text analysis approach to examine the sentiment of India's National Education Policy (NEP) 2020. The analysis followed four systematic steps:

1. Data Collection and Pre-processing

The official NEP 2020 document (Government of India, Ministry of Education) in PDF format was used as the primary source. The text was extracted using the Python library PyPDF2, ensuring that all sections of the policy were preserved in their original order.

2. Segmentation of the Policy Document

To enable section-wise analysis, the text was segmented into chapters based on the policy's official structure. Regular expression patterns (e.g., `\n\d+\.\s+[A-Z][^\n]+`) were applied to detect numbered chapter headings such as "1. Early Childhood Care and Education" or "2. Foundational Literacy and Numeracy." Each chapter was stored separately for subsequent analysis.

3. Sentiment Analysis

Sentiment analysis was conducted using Text Blob, a Python-based natural language processing tool. Text Blob assigns two key measures to a body of text. First is Polarity, which ranges from -1.0 (highly negative) to +1.0 (highly positive). A score close to zero reflects a neutral tone. Second is Subjectivity, which ranges from 0.0 (fully objective) to 1.0 (highly subjective), indicating the extent to which the language is descriptive versus normative or aspirational. For instance, in the chapter "Motivated, Energized Faculty", the frequent use of terms such as "energized," "capable," "motivated," "respect," and "empowered" resulted in a high polarity score (+0.25) and a relatively subjective framing (0.53). By contrast, the "Implementation" chapter, which uses more technical and administrative vocabulary, scored low on polarity (+0.08) and subjectivity (0.39).

4. Aggregation and Interpretation

The sentiment values were computed for each chapter, enabling a comparative analysis of tone across the policy. Aspirational sections (e.g., Introduction, Faculty Development, Academic Research) were found to be strongly positive and moderately

subjective, while governance-oriented sections (e.g., Financing, Implementation, Regulatory Reform) were more neutral and technical in tone.

III. Results

This section presents the findings of the sentiment analysis conducted on the National Education Policy (NEP) 2020. Each chapter of the policy was analysed for polarity (positive–negative tone) and subjectivity (objective–subjective framing). Polarity scores consistently fell on the positive side of the scale, although with notable variations across sections, while subjectivity scores revealed differing degrees of aspiration versus technical detail. The results are summarized in **Table 1**, followed by the charts structured around major clusters of the policy.

Table 1- Sentiment Scores by Section of NEP 2020

Chapter Name	Polarity	Subjectivity	Interpretation
Early Childhood Care & Education	0.16	0.38	Positive, focused on nurturing and opportunities.
Foundational Literacy & Numeracy	0.11	0.4	Slightly positive, but framed as urgent/necessary – mix of optimism and problem recognition.
Curtailling Dropout Rates	0.11	0.43	Balanced tone – acknowledges problems but uses reformist language.
Curriculum & Pedagogy	0.15	0.43	Positive, aspirational – “holistic, engaging, enjoyable learning.”
Teachers	0.14	0.44	Supportive, positive but mostly policy-oriented.
Equitable & Inclusive Education	0.14	0.44	Strongly pro-inclusion, moderately positive tone.
Efficient Resourcing & Governance	0.1	0.44	Neutral-positive – administrative/technical in focus.
Standard-setting & Accreditation	0.11	0.37	Slightly positive, but largely technical.
Quality Universities & Colleges	0.18	0.45	Forward-looking, visionary, very positive framing.
Institutional Restructuring	0.17	0.41	Reformist and optimistic tone.
Holistic & Multidisciplinary Education	0.13	0.38	Positive, stressing flexibility and breadth.
Optimal Learning Environments	0.16	0.41	Emphasizes supportive structures – positive aspirational.
Motivated,	0.25	0.53	Strongly positive and somewhat

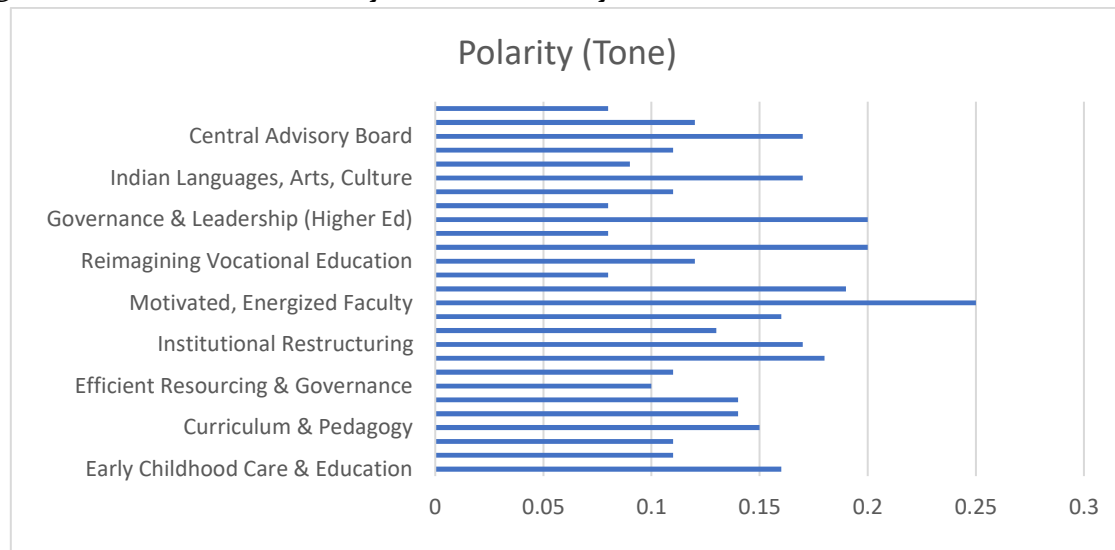
Energized Faculty			subjective – inspirational language about teachers.
Equity & Inclusion in Higher Ed	0.19	0.47	Very positive, values-driven, social justice tone.
Teacher Education	0.08	0.44	Mildly positive, mostly technical.
Reimagining Vocational Education	0.12	0.4	Positive – stresses relevance and modernization.
Academic Research & NRF	0.2	0.53	Strongly positive, ambitious tone about research transformation.
Regulatory Reform	0.08	0.36	More neutral/technical, less emotional.
Governance & Leadership (Higher Ed)	0.2	0.49	Positive, emphasizing leadership and institutional vision.
Professional Education	0.08	0.35	Neutral with light positive tone.
Adult Education & Lifelong Learning	0.11	0.36	Slightly positive, practical tone.
Indian Languages, Arts, Culture	0.17	0.49	Strong cultural pride, very positive and subjective.
Technology Integration	0.09	0.47	Slightly positive, but more technical.
Online & Digital Education	0.11	0.39	Positive tone, but practical in focus.
Central Advisory Board	0.17	0.38	Supportive, positive governance tone.
Financing	0.12	0.4	Slightly positive but technical – focused on feasibility.
Implementation	0.08	0.39	Nearly neutral, managerial tone.

The sentiment analysis demonstrates that the NEP 2020 is written in an overall positive tone, with polarity values ranging from **+0.08** (neutral-leaning, managerial tone) to **+0.25** (highly positive, aspirational language). No chapter scored negatively, which suggests a deliberate rhetorical choice to frame the policy in affirmative, constructive, and reform-oriented language.

Subjectivity scores ranged between **0.35** and **0.53**. Chapters with higher subjectivity emphasize aspirational and value-driven language (e.g., Motivated Faculty, Academic Research & NRF, Equity & Inclusion), while chapters with lower subjectivity are more technical and procedural in tone (e.g., Regulatory Reform, Professional Education). This variation suggests that NEP 2020 blends visionary discourse with

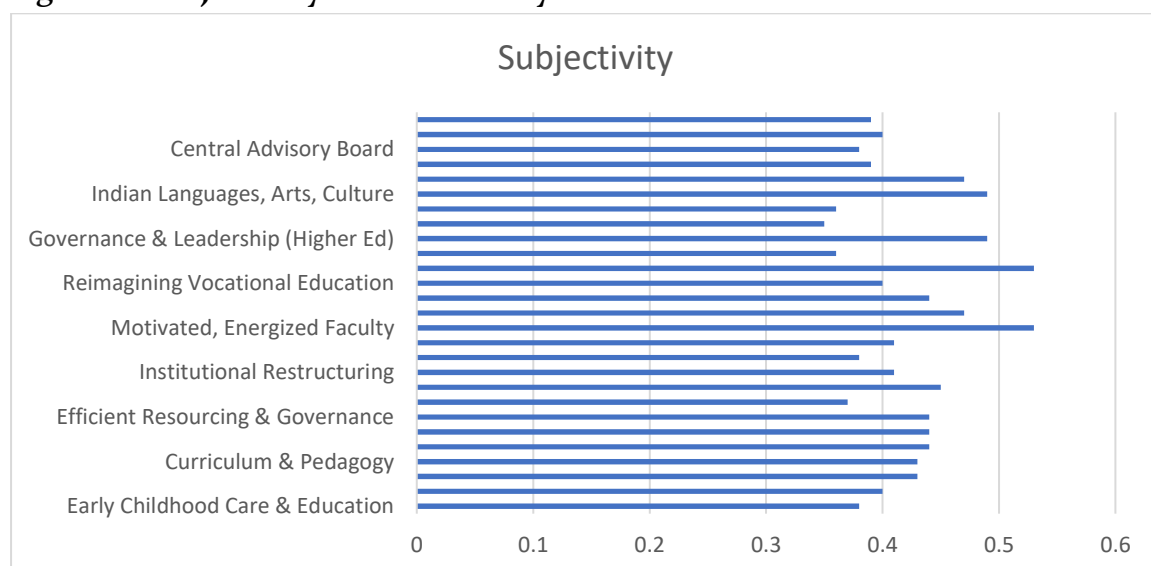
administrative pragmatism- a balance designed to inspire confidence while also communicating feasibility.

Figure 1. Sentiment Polarity of NEP 2020 by Section



This bar chart illustrates the polarity scores of each chapter in the National Education Policy 2020. The x-axis represents polarity values ranging from -1 (negative) to $+1$ (positive), while the y-axis lists the major sections of the policy. Higher values indicate a stronger positive tone, characterized by aspirational and visionary language. For instance, *Motivated, Energized Faculty* and *Academic Research & NRF* display the highest polarity scores, reflecting strongly reformist and optimistic framing. In contrast, sections such as *Implementation* and *Financing* exhibit lower polarity values, suggesting a more neutral, technical, and managerial orientation. Overall, the chart demonstrates that NEP 2020 employs a predominantly positive rhetorical style, especially in sections dealing with inclusivity, research, and faculty development.

Figure 2. Subjectivity of NEP 2020 by Section



This bar chart depicts the subjectivity scores of each chapter in the NEP 2020. The x-axis measures subjectivity from 0 (fully objective, technical language) to 1 (highly subjective, normative, or aspirational language), while the y-axis lists the corresponding policy sections. Sections such as Motivated, Energized Faculty and Academic Research & NRF record relatively high subjectivity scores, reflecting normative, inspirational, and visionary language use. By contrast, chapters on Regulatory Reform, Professional Education, and Implementation are closer to the objective end of the spectrum, marked by more technical and managerial phrasing. This distribution indicates that NEP 2020 alternates between aspirational rhetoric in vision-driven areas and objective technicality in governance and operational sections. Overall, the analysis reveals a rhetorical pattern: visionary and aspirational sections are framed in highly positive and subjective terms, while implementation-oriented chapters adopt a neutral and technical style. This suggests a deliberate strategy in NEP 2020 to balance inspiration with feasibility, appealing to values while maintaining credibility as a policy document.

IV. Discussion

The findings of this sentiment analysis of NEP 2020 illustrate how India's most recent education reform is framed through a rhetorical balance of aspiration and pragmatism. The results show that while aspirational chapters such as Motivated Faculty, Equity and Inclusion, and Academic Research adopt highly positive and subjective language, more technical chapters such as Implementation and Regulatory Reform remain neutral in tone. This pattern is not accidental: it reflects a strategic deployment of discourse to inspire stakeholders while simultaneously maintaining credibility as a policy document.

In this discussion, three key themes are addressed: (1) the role of rhetoric in education policy, (2) the contribution of computational sentiment analysis to policy studies, and (3) the ideological implications of NEP 2020's tone.

1. Rhetoric and Policy Communication

Education policy is not only a set of directives but also a communicative act. It projects visions of national development, signals political priorities, and frames education as both a technical and moral enterprise (Ball, 1993; Rizvi & Lingard, 2010). The results from NEP 2020 confirm that official policies are deliberately written in ways that oscillate between visionary inspiration and technical assurance.

For example, the chapter on Motivated, Energized Faculty (polarity +0.25) reads more like an inspirational essay than a regulatory guideline, repeatedly invoking empowerment and respect for teachers. This aligns with Ball's (2015) argument that policy texts operate as "narratives of hope," mobilizing affective commitments alongside structural changes. Similarly, the positive framing of Equity and Inclusion

demonstrates how policy texts articulate normative commitments to justice, belonging, and fairness, thereby shaping the legitimacy of reforms.

At the same time, chapters such as Implementation (+0.08) adopt a markedly different style, privileging administrative and managerial language. This dual tone reinforces the view that policy texts must balance multiple audiences: the visionary discourse reassures teachers, parents, and students of transformation, while the technical discourse communicates feasibility to bureaucrats and administrators (Shore & Wright, 1997).

2. Computational Sentiment Analysis as a Method

The use of sentiment analysis to study NEP 2020 provides a novel methodological lens. Traditionally, discourse analysis of policy has relied on qualitative close reading (Bacchi, 2009). While qualitative approaches remain essential, computational methods enable a systematic and replicable mapping of tone across large documents.

By quantifying polarity and subjectivity, this study shows how different chapters vary in tone. For instance, the Academic Research & NRF section scored +0.20 in polarity and 0.53 in subjectivity, revealing strong ambition and aspirational framing. Without computational tools, such subtle differences may be noted impressionistically but not quantified systematically.

This approach aligns with emerging scholarship in digital humanities and computational social science, where sentiment analysis has been applied to parliamentary debates (Mohammad et al., 2016), media framing of climate policy (Schmidt et al., 2013), and public opinion surveys. Its application to policy texts in the Indian context remains limited, making this study an early contribution to methodological innovation in education policy studies.

Nevertheless, computational analysis has limitations. TextBlob's lexicon-based sentiment scoring may not fully capture context, irony, or culturally specific meanings. For instance, words like "regulation" or "standard-setting" are coded as neutral, even though they carry significant ideological weight in education debates. Therefore, sentiment analysis should be understood as complementary to qualitative interpretation, rather than a replacement.

3. Ideological Implications of NEP 2020's Tone

The variation in sentiment across NEP 2020 also reveals deeper ideological underpinnings. The aspirational chapters embody a discourse of transformation and empowerment, consistent with India's ambition to position itself as a global knowledge economy (Jain, 2021). Phrases emphasizing "world-class universities," "research excellence," and "multidisciplinary" are not only educational reforms but also ideological markers of modernization and competitiveness.

Similarly, the high positivity in Equity and Inclusion reflects the moral stance of the policy, presenting the state as a guarantor of justice and fairness. This aligns with

global education agendas, such as the United Nations' Sustainable Development Goal 4 (SDG 4), which emphasizes inclusive and equitable quality education (UNESCO, 2015). By adopting the language of equity and cultural pride, NEP 2020 aligns itself with both international commitments and domestic social justice agendas.

By contrast, the neutral tone of Implementation and Financing signals an awareness of capacity constraints. Here, the policy shifts from visionary rhetoric to managerial discourse, suggesting a pragmatic recognition that reforms cannot rely solely on aspirations but require credible governance mechanisms. This tonal shift reflects the dual pressures faced by Indian policymakers: the need to inspire stakeholders with reformist ambition while also convincing administrators and international observers of feasibility and stability.

V. Positioning within Global Education Policy Discourse

The rhetorical strategy observed in NEP 2020 mirrors global patterns. Comparative studies of education reforms in other countries—such as the U.S. No Child Left Behind Act or the U.K.'s Education Reform Act—have also shown similar oscillations between aspirational language of transformation and technical language of accountability (Lingard & Sellar, 2013; Levin, 2001).

In this sense, NEP 2020 is part of a broader global discourse where education policy documents must simultaneously act as symbolic statements of national vision and technical blueprints for governance. The consistently positive polarity scores in NEP 2020 reinforce the argument that policy texts rarely use negative framing; instead, they prefer to recast challenges as opportunities, maintaining optimism as a discursive strategy.

VI. Implications for Policy Reception and Implementation

The tone of a policy document shapes how it is received. Research in political communication suggests that positive, aspirational framing increases stakeholder engagement and trust, while overly neutral or negative framing may discourage participation (Gamson & Modigliani, 1989). NEP 2020's overall positivity is thus likely to enhance its legitimacy among teachers, parents, and students.

However, the divergence between highly aspirational sections and neutral implementation chapters may also create tensions. If stakeholders are inspired by the rhetoric of empowerment but encounter bureaucratic obstacles in practice, this may generate disillusionment. Therefore, sentiment analysis not only highlights rhetorical strategies but also points to potential implementation gaps, where tone and reality may diverge.

VII. Contributions and Limitations

This study contributes to both methodology and substantive understanding. Methodologically, it demonstrates the utility of computational sentiment analysis for

policy studies, complementing traditional qualitative discourse analysis. Substantively, it reveals how NEP 2020 deploys differentiated rhetoric—positive and aspirational in vision-driven chapters, neutral and technical in governance-related sections—to balance inspiration with credibility.

Limitations include the reliance on TextBlob, which may not capture the full semantic richness of the text. Future research could apply more advanced machine learning models (e.g., BERT-based sentiment classifiers) or conduct cross-linguistic analysis of Hindi and regional-language versions of NEP 2020. Comparative studies with previous education policies (NEP 1968, 1986, or 1992 modifications) would also deepen understanding of rhetorical evolution in Indian education policy.

VIII. Conclusion

The discussion underscores that NEP 2020 is not simply a set of prescriptions but a carefully crafted rhetorical document. Its overall positive sentiment reflects the government's ambition to frame education reform as a national project of hope, inclusivity, and global competitiveness. The alternation between aspirational and technical tones illustrates the complexity of modern policymaking: policies must inspire while also appearing feasible. By applying sentiment analysis, this study reveals the hidden rhetorical architecture of NEP 2020, providing insights not only into the document itself but also into how education policy texts function more broadly as instruments of both governance and persuasion.

The results carry broader implications for education policy studies. NEP 2020 shows how contemporary policy documents balance vision and feasibility: aspirational rhetoric builds legitimacy and mobilizes stakeholders, while neutral managerial tone reassures administrators and international observers of implementation capacity. This rhetorical architecture situates NEP 2020 within global trends where education policies serve simultaneously as symbolic statements of national ambition and as technical blueprints of governance.

References

1. Bacchi, C. (2009). *Analysing policy: What's the problem represented to be?* Pearson Education.
2. Ball, S. J. (1993). What is policy? Texts, trajectories, and toolboxes. *Discourse: Studies in the Cultural Politics of Education*, 13(2), 10–17.
3. Ball, S. J. (2015). Education, governance, and the tyranny of numbers. *Journal of Education Policy*, 30(3), 299–301.
4. Education for All in India. (2025). NEP 2020: A five-year review (2020–2025). educationforallinindia.com
5. Firdosh Khan. (2025). National Education Policy 2020: A critical appraisal.

6. Gamson, W. A., & Modigliani, A. (1989). Media discourse and public opinion on nuclear power: A constructionist approach. *American Journal of Sociology*, 95(1), 1–37.
7. Government of India, Ministry of Education. (2020). National Education Policy 2020. New Delhi: Government of India.
8. Jain, P. (2021). India's national education policy 2020: A policy for global knowledge economy. *International Journal of Educational Development*, 81, 102354.
9. Levin, B. (2001). *Reforming education: From origins to outcomes*. Routledge Falmer.
10. Lingard, B., & Sellar, S. (2013). Globalization, education policy, and politics. In B. Lingard, G. Thompson, & S. Sellar (Eds.), *Globalizing education policy* (pp. 23–42). Routledge.
11. Loria, S. (2018). TextBlob: Simplified text processing. Python Software Foundation. textblob.readthedocs.io.
12. Mohammad, S. M., Kiritchenko, S., Sobhani, P., Zhu, X., & Cherry, C. (2016). A dataset for detecting stance in tweets. In *Proceedings of the 10th International Conference on Language Resources and Evaluation (LREC 2016)* (pp. 3945–3952). European Language Resources Association.
13. Rizvi, F., & Lingard, B. (2010). *Globalizing education policy*. Routledge.
14. Schmidt, A., Ivanova, A., & Schäfer, M. S. (2013). Media attention for climate change around the world: A comparative analysis of newspaper coverage in 27 countries. *Global Environmental Change*, 23(5), 1233–1248.
15. Shore, C., & Wright, S. (1997). Policy: A new field of anthropology. In C. Shore & S. Wright (Eds.), *Anthropology of policy: Critical perspectives on governance and power* (pp. 3–39). Routledge.
16. The Probe. (2025). Unpacking the National Education Policy 2020: Opportunities and challenges. theprobe.in.
17. UNESCO. (2015). Education 2030: Incheon Declaration and Framework for Action for the implementation of Sustainable Development Goal 4. UNESCO.