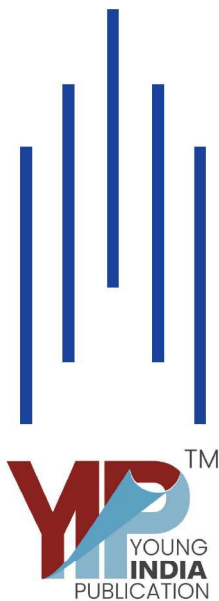


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# Transforming Teacher Education in India: Integration NEP 2020, NCERT and Curriculum Reforms



*Edited By*  
*Dr. Shehzadhussein Ansari*

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**Dr. Shehzadhussein Ansari**

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First and foremost, I acknowledge the visionary leadership and tireless efforts of the policymakers and experts behind National Education Policy (NEP) 2020, the National Credit Framework (NCrf) and the National Curriculum Framework for Teacher Education (NCF-TE). Their commitment to revitalizing teacher education in India has been a vital inspiration for this work.

I am deeply thankful to the distinguished contributors and scholars who generously shared their expertise, research and insights, enriching the quality and depth of this book. Their collaborative spirit and dedication have been invaluable.

My heartfelt appreciation goes to the faculty, academic institutions and teacher education centers whose case studies and practical experiences have added critical real-world perspectives to this volume.

I would also like to thank the administrative and editorial teams who supported the preparation, review and publication processes with professionalism and diligence.

Lastly, I extend my profound gratitude to my family, friends and colleagues at Sabarmati University for their unwavering support and encouragement throughout this journey.

This book is dedicated to all educators and stakeholders committed to shaping a transformative future for teacher education in India.

*Dr. SHEHZADHUSSEIN ANSARI*

## Preface

Teacher education in India stands at a historic crossroads. The National Education Policy (NEP) 2020 heralds a new era of comprehensive reform aimed at creating a vibrant, inclusive and future-ready education system. Central to this vision is the transformation of teacher preparation and professional development, which holds the key to enhancing the quality of education across the country.

This book, “**Transforming Teacher Education in India: Integrating NEP 2020, NCrF and Curriculum Reforms**” is a timely response to the urgent need for a systematic and integrated approach to revamp teacher education. It explores the synergistic alignment of the **National Education Policy 2020** with the **National Credit Framework (NCrF)** and the **National Curriculum Framework for Teacher Education (NCF-TE)**, offering a cohesive framework to guide institutions, policymakers and educators.

Our aim is to provide a comprehensive resource that addresses the multifaceted dimensions of this transformation from policy alignment and curriculum redesign to pedagogy, professional development, credit systems and implementation challenges. Through rigorous analysis and practical insights, the book highlights how these reforms can collectively build a teacher education system that is flexible, competency-based, culturally relevant and globally benchmarked.

We also recognize that meaningful change requires not only policy directives but a sustained commitment from all stakeholders involved. Therefore, this volume emphasizes real-world challenges and presents case studies and strategies to bridge gaps between policy intent and practice.

It is our hope that this book will serve as a guiding compass for teacher educators, academic leaders, regulators and researchers dedicated to fostering an empowered teaching workforce capable of nurturing India’s diverse learners and shaping the nation’s educational future.

We extend our gratitude to all contributors and readers who share this vision for transformative teacher education.

*Dr. SHEHZADHUSSEIN ANSARI*

## About the Book

**"Transforming Teacher Education in India: Integrating NEP 2020, NCrF and Curriculum Reforms"** offers a comprehensive exploration of the on-going paradigm shift in India's teacher education landscape. Anchored in the transformative vision of the **National Education Policy (NEP) 2020**, this book delves into the integration of the **National Credit Framework (NCrF)** and the **National Curriculum Framework for Teacher Education (NCF-TE)** to reshape how teachers are prepared, developed and supported.

The book begins by examining the alignment of key policy frameworks, focusing on how NEP 2020's emphasis on holistic, multidisciplinary and competency-based education is operationalized through regulatory bodies such as NCTE, UGC and NCERT. It further investigates the critical linkages between NCrF, NCF-TE and the National Curriculum Framework for School Education, ensuring coherence from teacher preparation to classroom practice.

Central to this transformation is the redesign of curricula to embrace competency-based approaches, integrating Indian knowledge systems, values and digital pedagogies. The book emphasizes experiential learning through field engagement, internships and practice teaching, nurturing reflective and inclusive educators equipped for diverse classrooms.

Addressing professional growth, the volume highlights continuous professional development, mentoring and faculty capacity building as essential pillars for sustaining reform momentum. It also unpacks innovative credit systems, flexible pathways and assessment reforms that enable multiple entry and exit points, ensuring accessible and quality teacher education.

Recognizing implementation realities, the book presents case studies, identifies institutional challenges and proposes actionable strategies to bridge policy-practice gaps. It concludes by outlining a roadmap for the Integrated Teacher Education Programme (ITEP) and situates India's reforms within a global context.

This work is an indispensable resource for policymakers, educators and institutions committed to advancing teacher education that meets the demands of a rapidly evolving educational ecosystem in India.

*Dr. SHEHZADHUSSEIN ANSARI*

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AI	Artificial Intelligence	NEP	National Education Policy
AICTE	All India Council for Technical Education	NHEQF	National Higher Education Qualifications Framework
AISHE	All India Survey on Higher Education	NIRF	National Institutional Ranking Framework
ANRF	Anusandhan National Research Foundation	NLM	National Literacy Mission
ARIIA	Atal Ranking of Institutions on Innovation Achievements	NLP	National Literacy Programme
ASER	Annual Status of Education Report	NPTTEL	National Programme on Technology Enhanced Learning
ATL	Atal Tinkering Lab	NQF	National Qualifications Framework
BGS	Bharatiya Gyan Sampada	NRF	National Research Foundation (Anusandhan NRF)
BRC	Block Resource Centre	NSDC	National Skill Development Corporation
CBCS	Choice Based Credit System	NSQF	National Skills Qualifications Framework
CBSE	Central Board of Secondary Education	NVS	Navodaya Vidyalaya Samiti
CCE	Continuous and Comprehensive Evaluation	OBE	Outcome Based Education
CISCE	Council for the Indian School Certificate Examinations	ODL	Open and Distance Learning
CRC	Cluster Resource Centre	OER	Open Educational Resources
DIET	District Institute of Education and Training	PGS	Postgraduate Studies
ERP	Enterprise Resource Planning	PTA	Parent-Teacher Association
HEI	Higher Education Institution	PTM	Parent-Teacher Meeting
ICHR	Indian Council of Historical Research	R&D	Research and Development
ICSE	Indian Certificate of Secondary Education	RMSA	Rashtriya Madhyamik Shiksha Abhiyan
ICSSR	Indian Council of Social Science Research	RTE	Right to Education
ICT	Information and Communication Technology	RUSA	Rashtriya Uchchar Shiksha Abhiyan
ICTE	Indian Council of Technical Education	SBA	School-Based Assessment
IKS	Indian Knowledge Systems	SCERT	State Council of Educational Research and Training
IQAC	Internal Quality Assurance Cell	SDG	Sustainable Development Goals
KVS	Kendriya Vidyalaya Sangathan	SDP	School Development Plan
LMS	Learning Management System	SIP	School Improvement Plan
MDM	Mid-Day Meal	SMC	School Management Committee
MHRD	Ministry of Human Resource Development	SMP	School Meal Programme
MoE	Ministry of Education (formerly MHRD)	SS	Samagra Shiksha
NAAC	National Assessment and Accreditation Council	SSA	Sarva Shiksha Abhiyan
NBA	National Board of Accreditation	SWAYAM	Study Webs of Active Learning for Young Aspiring Minds
NCERT	National Council of Educational Research and Training	UGC	University Grants Commission
NCF	National Curriculum Framework	UNESCO	United Nations Educational, Scientific and Cultural Organization
NCF-SE	National Curriculum Framework for School Education	UNICEF	United Nations International Children's Emergency Fund
NCrF	National Credit Framework		

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**National Education Policy 2020 and Sustainable Development Goals**

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&

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**Abstract**

It is a fact that education is considered the foundation to live a more prosperous and useful life. It also enables a person to know himself/ herself, interact well with the environment and make meaningful contributions to life impacting society and the rest of the world. Along with arming an individual with knowledge and skills, education also educates and develops a mind capable of critical thinking, empathy and moral values, which allows a person to evolve in a whole. National Education Policy (NEP) 2020, the reform that sweeps through the system of Indian education, has been officially operating already longer than two years. It is a good time to revisit the relevancy of this period, its authenticity and how it satisfies changing demands of the society. With India advancing in a fast-changing future, it is important to assess the effectiveness of evaluating whether the policy is implemented in its true spirit and whether its vision is there to serve all tiers of the population. The United Nations Sustainable Development Goals (SDGs) specifically SDG 4: Quality Education-- provides a world platform that is geared towards ensuring inclusive and quality education for all by 2030. The NEP 2020 vision and the SDG 4 mandate are both hand in glove as the vision of one works closely with the mandate of the other. Both insist on not just imparting quality education, but also ensuring teaching of human values, cultural awareness, social responsibility and consciousness in the environment- aspects that enhance moral as well as social fiber of any society. Academic endeavour, the current paper tries to investigate the synergy between NEP 2020 and SDG 4 and examines how the joint vision would prepare the route towards a holistic, inclusive, progressive, and future-ready educational system. It raises a critical question on the inclusivity of the existing education policy in its capacity to meet varied expectations of a dynamic society and equitable access to all the learners regardless of their socio-economic or geographical challenges.

**Keywords:** Inclusive Education, National Education Policy 2020, Minority Rights, Sustainable Development Goal 4, Educational Equity, Socio-Economically Disadvantaged Groups (SEDGs)

**Introduction**

Education is directly accepted as a basic human right and there is a high possibility of achieving sustainable development through education. The NEP 2020, in this respect, exemplifies a revolutionary direction in the history of educational process in India, posing as

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the means of a revolutionary step in terms of inclusive, equitable and quality education. Being presented more than 30 years later, NEP 2020 does so at a particularly critical moment when the international community is set on attaining the United Nations Sustainable Development Goals (SDGs), specifically SDG 4, which targets to, by 2030, “ensure inclusive and equitable quality education and promote lifelong learning opportunities with all” (United Nations, 2015).

India earlier education policies the National Policy on Education 1968, developed through the recommendation of Kothari Commission and the Policy of 1986 redeveloped in 1992- were centred in attaining increased accessibility and better organization of educational governance. Nevertheless, they were not so holistic or inclusive when it comes to the global sustainability frameworks that are present throughout NEP 2020 (Chandrashekhar & Sharma, 2021). Besides being the third overarching education policy in India, the NEP 2020 is also its most elaborate one, with the aim of transforming the education system to align with the needs of the 21<sup>st</sup> -century through the integration of concepts of equity and inclusion, quality and flexibility, and lifelong learning (Ministry of Education, 2020).

Among the main changes of NEP 2020 is the fact that, unlike NEP 2015, it is aligned with SDGs, especially the inclusive spirit of SDG 4. The vision presented in the policy is the system that would secure that no child misses a chance to learn and excel due to the scale of birth or background (MoE, 2020). It recognizes the structural inequalities existing along the lines of socio-economic, gender, regional and lingual inequity and offers specific measures to deal with inequalities by proposing universal access, gender inclusion funding, contextualization of curriculum and better inclusion of marginalized groups in general (Bhattacharya & Mehta, 2022).

Additional increases in the proportion of public spending on education to 6.0 percent of the national GDP are further proposed by the policy, which has been proposed since the Kothari Commission (1966), never fully realized (Varghese & Malik, 2021). As of 2020, Indian public investment in education is pegged at less than 3%, which many pessimists fear to be the turning point or major concern on the viability of NEP implementation objectives (World Bank, 2021). Besides, law enforcement by both the central and state governments along with differences in institutional capacity also makes implementation of the policy more complicated (Jain, 2021).

The NEP 2020 has five foundational pillars criterion: Access, Equity, Quality, Affordability and Accountability pillars which are also the pillars of the SDG 4 framework. The goal of these guiding principles is to develop an education system that does not only educate people in an academic way, but also teaches the learners to live in a sustainable way, live as citizens of the world, and be part of a knowledge-based economy world responsibly (Tilak, 2021). The policy encourages multilingualism, experience and vocational studies, digital learning and interdisciplinary learning, thereby making it flexible and inclusive in learning modalities at all levels of education (Mukhopadhyay, 2022).

Nonetheless, although it is a promising view, the realities on the ground of the situation regarding education in India bring forward stagnant issues. The level of learning outcomes, especially on lower levels, is still extremely low, and regional and demographic

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inequalities are too vast (ASER, 2020). Apparently, the aspirational quality of NEP 2020 directly contrasts with empirical evidence regarding quality, access and outcomes of education in rural and marginalized contexts (Kumar 2021).

Against this backdrop, the role of the NEP 2020 hinges on two aspects: that first it has to be an instrument of national educational reform and second that it has to be a route-map to achieving the SDGs, especially in the areas of inclusive curriculum, teacher education, early childhood care and education (ECCE), school infrastructure. The intersections of national policy filing with international development represents an excellent moment, which will enhance the Indian education system and raise it to the heights when the implementation relies on evidence-based planning, inter-sectoral coordination, and inclusive modes of governance.

Altogether, the NEP 2020 provides an ambitious road map that attempts to democratize education in India and it becomes synchronous with universal ideals of sustainability and social justice. However, its success will still not be measured by strength of its design but also by how determined all the stakeholders, including governments, institutions, teachers and civil society are to turn vision into reality.

### **Why Inclusive Education is the need of the hour?**

Over the last twenty years, India has experienced significant developments in the sphere of education, especially related to the increasing educational infrastructure, gross enrollment formation, and improving the institutional process. One of the most significant developments in this direction has been the passing of the Right to Education (RTE) Act, 2009 that made free education to all children between 6 years and 14 years of age, compulsory. Consequently, the nation witnessed a significant rise in the Social number of school enrolments, particularly at the upper primary (Classes 6 to 8) with an increase rate of about 19.4% in the period between 2009 and 2016 (Sahoo, 2022). An associated program like the mid-day meals, sanitation facilities and other safety measures have helped to keep dropouts rates to a minimum and maintain enrolments that span across gender and socio-economic lines.

Nevertheless, despite such accomplishments, the problem of inclusive and equal education remains to be present. Millions of children are left behind because of factors that relate to disability, poverty, gender, geographic location and stigma status. Education is not just a commodity and, in fact, a constitutional right and obligation of the state to provide every citizen regardless of their background with good learning opportunities. According to UNICEF (2021), universal education can be best achieved through inclusive education since it focuses on the different learning needs of every student in an inclusive and supportive, lower-barrier structure, which encourages participation and diminishes marginalization.

Inclusive education insists on the total inclusion of learners who may have divergent origins particularly exclusions on grounds of disability, caste, religion, language, gender identity or socio-economic status. The rationale with which it functions is based on the belief that classroom diversity can be considered neither an issue, nor a problem but a resource of enriching the learning process (Sharma et al., 2018). Furthermore, the studies have

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continuously revealed that children with disabilities possess the same opportunities to excel with the appropriate support and assistive technology and accessible pedagogical practices (Singal, 2019). Thus, education systems need to not only moderate the existence of diversity but adopt it overall, such that no child is left out.

Even though almost more than seven decades post independence, India still has many problems in providing universal access to education, particularly the secondary and higher education. Not only is the exclusion spatial, it is structural. Even now, many groups that remain marginalized have insufficient access to good schools, competent teachers and inclusive practices in the curriculum. Although different government schemes like Sarva Shiksha Abhiyan (SSA) and Samagra Shiksha Abhiyan (SMSA) have tried to fill the divide, their achievements have been varying between states and groups of the population (Bhatty, 2020).

The NEP 2020 poses an emphatic difference to the past scenario since it envisages an education system that is inclusive to all, particularly to the Socio-Economically Disadvantaged Groups (SEDGs). In its policy, it is emphasized that the removal of structural barriers to access and learning is necessary and promotes the role of gender inclusion funds, inclusive curriculum, multilingual education and Universal Design for Learning (UDL) to meet the needs of different learners (Ministry of Education, 2020). It also requires that there must be reinforcement of teacher preparation in the context of creating inclusive pedagogy and sensitivity to diversity among learners (Bhattacharya & Mehta, 2022).

The subject of inclusive education, therefore, is not only a pedagogical issue but a social need and a growing development need. The idea is the basis of constructing an equal society where all individuals, despite their abilities or social identity, will be empowered to reach their potentials and add value to the country. Within the framework of the Sustainable Development Goals (SDGs) particularly the goal 4, the achievement of inclusive education is not a choice but extra urgent as it is necessary to achieve equity, justice and lifelong learning of all.

### **Gender Inclusion in the Context of NEP 2020 and Sustainable Development Goals**

In India, gender disparity in education has assumed different forms i.e. lower rates of school enrolment and completion by girls and transgender people, a vast gap in access to higher education, school completion, educational achievements and safety since time immemorial. The National Education Policy 2020 (NEP 2020) acknowledges these multiple-layered barriers and makes a clear statement of prioritising gender inclusion as part and parcel of systematic education reform. It does not fail to recognize that female and transgender learners, regardless of their socio-economic, caste and regional backgrounds occupy one of the most vulnerable player groups with regard to the systemic exclusion out of education (Anuja, 2020).

In line with these issues, NEP 2020 has suggested the model of inclusive and equitable education system where none of the children will be left behind because of the gender-based vulnerabilities. It is part of the overall gender empowerment plan on education of the government in tandem with effective programs like, the Beti Bachao Beti Padhao,

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Sukanya Samridhi Yojana and Balika Samridhi Yojana. The programs have had positive gains in improving girls attendance as well as awareness concerning the education of girls at the grass root level (Ministry of Women and Child Development, 2021).

Notably, NEP 2020 extends the previous regulations by directly embracing the issue of transgender people into the system of educational inclusivity. The policy suggests the implementation of Gender-Inclusion Fund (GIF), which would fulfill the requirement of female children and TG children equally on the foundation of quality education. The funding will cater towards the development of gender appropriate sanitation infrastructure, safe transportation through provision of bicycles, conditional cash transfers, localized safety mechanisms, and gender-sensitive curriculum making (NCERT, 2020). States will enjoy freedom to utilize this fund in overcoming local and contextual obstacles that inhibit the attendance of girls and transgender children in school.

### **Inclusive Education as a Developmental Imperative in NEP 2020 and SDG 4.5**

NEP 2020 promotes the concept of cycling groups, walking groups and support systems within the community to make the school commute safer so that girls and other vulnerable learners can make it without feeling unsafe. This will not only improve security, but also increase community ownership and social acceptability of girl's education a precursor to long term impacts of behavioral change and empowerment. Globally, the policy is geared towards achieving Sustainable Development Goal 4.5 that is committed to achieving "gender equality in education by 2030 (UN, 2022) and ensuring equal access to education and vocational training to persons in vulnerable situations, including those with disabilities, indigenous peoples and children in vulnerable situations". The need of gender inclusiveness in education is not merely moral but also developmental since investing in girls and transgender education in terms of health, reduction in poverty, and overall society is multiplier in nature (UNESCO, 2020).

Problems still exist along these great frameworks. As a recent UNESCO report tabled, the gap between the genders in terms of enrollment in primary schools is closing in most regions of India, but it increases dramatically on secondary and higher education level, especially rural and socioeconomically-disadvantaged areas (UNESCO, 2021). The gender inclusion should not be viewed as a supplemental goal but a strong pillar of education policy and planning. Significant inclusion will entail not just policy demands and budget but robust institutional arrangements, genderizing of school personnel and administrators, community mobilization and accountability systems which is why the policy guidelines of gender awareness sensitization and funds are complementary but certainly not a substitute to effective institutional structures. This is the only way that the dream of a professionally inclusive, equitable and just educational system that is the vision of NEP 2020, and the Sustainable Development Goals can be put into reality in India.

### **The Cultural Conundrum: Language and Inclusion in NEP 2020**

In education as well as the cultural self-identification, language has an underlying role to play. Linguistic difference is indeed both a privilege and a problem in the case of a

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multilingual nation such as India, especially when it comes to provision of education. The use of regional languages and mother tongues as the principal medium of instruction especially in the primary and entry level of education is one of the crucial and paradigm shifting elements of National Education Policy 2020 (NEP 2020).

It has been indicated that language barriers have long been known to have great influence on the accessibility to education and the achievements of marginalized groups. Numerous students with disadvantaged backgrounds, primarily in rural and tribal areas, join school systems, whose main language of instruction is fully unfamiliar to them, which contributes to low engagement and poor learning basis and the early departures (Mohanty, 2019). The culture-linguistic disconnection tries to be addressed by introducing the NEP 2020, in which the emphasis of teaching, at least up to Grade 5, using the native language, with leeway up to Grade 8 and beyond where possible (Ministry of Education, 2020).

The policy proposes a modified Three-Language Formula which promotes the teaching of three languages at foundational level, two of which should be indigenous to India. This model is aimed at strengthening multilingualism, cognitive flexibility and national unity and yet it maintains the local languages and dialects. Notably, NEP 2020 does not present a strict framework, but gives states, regions and individuals among the learners to decide the languages more appropriate to their surroundings (Mishra, 2020).

### **Language Inclusion in Early Childhood Education under NEP 2020 and SDG 4.5**

Studies have always revealed that through early childhood education in the native language, understanding improves, conceptual understanding becomes more effective and academic results improve. Children acquire better through the language they use in their daily lives especially in the early childhood when the brain is malleable (UNESCO, 2008; Heugh, 2022). The latter pedagogical choice also assists in erasing the difference between home and school culture and makes it feel inclusive and belonging to first-generation learners and linguistic minority groups. Furthermore such encouragement of regional language does not only have a functional character, it has also cultural and even philosophical value. It facilitates that the local knowledge systems tradition (oral based knowledge) and culture values are added to the formal education system. It can be done to revive some indigenous languages, which are mostly threatened and ensure cultural diversity under the impact of globalization (Mohanty & Panda, 2016). The focus on languages inclusion in NEP 2020 therefore compliments SDG 4.5, which encourages member states to reduce the education inequalities by paying close attention to the indigenous people and linguistic minorities.

The policy also brings in the path of inter-generational learning, and value based education, as well as increased parental interactions especially in the places where the parents might not read and write in Hindi or English by allowing them to use their own regional and tribal languages in early schooling. This not merely enhances the learning but is also very helpful to community-school partnerships which is essential in inclusive education. A scale-up of language inclusion through an implementing language should be heavily prepared, among other components, with the development of high quality teaching-learning content, training of local language teachers, and administrative strength to deal with multilingual

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classrooms. In the absence of proper resources and political will, there are chances that otherwise noble language policies can only be aspirational and not actionable (Jhingran, 2021).

### **Inclusive Education for Minorities through NEP 2020 and SDG 4 Alignment**

The promotion of mother tongue and regional languages learning by the NEP 2020 is an inclusive step that reflects ideologies of promoting equal cultural and group-related educational ideologies beyond trivial defeat. It does not identify language as a mere communication tool but as an identity formation, heritage and mental evolution mechanism. When correctly integrated, this method will be able to transform the sphere of early education in India and make it more natural, involving and culturally-oriented.

#### **☞ Inclusive of the Minorities:**

India is a pluralistic society and has a variety of religious, linguistic and Indian cultural groups. Most of these minority groups particularly religious and linguistic minorities have a long history of being denied an equal access to quality education, and as such their learning outcomes, drop-out rates and educational achievements are disproportionately lower. Being aware of such vestigial inequalities, the NEP 2020 is a ground breaking step towards achieving non-discriminatory and equitable education to all and especially the marginalized and minority groups. NEP 2020 re-emphasizes focusing on including the Socio-Economically Disadvantaged Groups (SEDGs) which specifically designs to incorporate religious and linguistic minorities as well as gender and geographic-based vulnerabilities. According to the policy, children of minority communities are supposed to be provided with the needed academic and non-academic support so that they could not leave the education system and develop at the same level as other students (Ministry of Education, 2020). Such support comes in the form of specific scholarships, access to local language education, curricula and local community involvement programs. Another aspect of the proposed policy is the creation of the so called Special Education Zones (SEZs) within the areas with high SEDG populations in order to guarantee targeted interventions.

Convergence of the United Nations Sustainable Development Goal 4 (SDG 4) and the NEP 2020 here is very essential. The SDG Target 4.5 targets to: eliminate gender disparities in education and achieve gender equality in education by 2030; “ensure equal access to all levels of education and vocational training, to ensure that vulnerable groups of the population, including persons with disabilities, indigenous peoples and children in vulnerable situations, have equal access to education and vocational training in order to fulfil their potential, and achieve results based on the present situation of disadvantaged groups” (UNESCO, 2017). There is a resonance between NEP 2020 and this target since it focuses on equity and inclusion as two central pillars of an educational reform in India.

Not only enrollment but participation and achievement of learning are also factors that shall be incorporated in the inclusion process. In this regard, NEP 2020 recommends the notion of a culturally responsive pedagogy, sensitivity of teachers towards the concerns of minorities and outreach programs at the community level. To cite an example, teaching in the

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**Transforming Teacher Education in India: Integrating NEP 2020, NCrf and Curriculum Reforms**

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minority languages and distribution of textbooks in the early years of education can support the preservation of linguistic identity and enhance the understanding and memorization of a language, especially when it comes to students of an early age (Mohanty, 2019).

The constitutional guarantee in the Indian constitution under Article 30 which empowers minority groups to establish and manage institutions of learning which is also linked to the right to administer education by the minority groups has received new meaning contained in the vision under NEP, and as such these institutions will gain strength in offering quality education and maintaining cultural identity. Empowerment of minorities under NEP 2020 therefore ensures two things: one, it is in line with global development agenda; and two, it upholds the constitutional ideals of equality, secularism and social justice in India. With the policy being currently in an implementation phase, there will be a need to have good monitoring systems, financing and involvement of communities in order to bring the vision of this inclusive and holistic education system.

### **Conclusion**

The National Education Policy 2020 lays emphasis on instilling Inclusive educational structure and Inclusive cultural building in the school education system with the support of infrastructure and by bringing about similar adjustments in the curriculum by including materials on human values including respect to all people, empathy, tolerance, human rights, gender equality, non-violence, global citizenship, inclusion and equity. It challenges the stakeholders to cross the barricades and make them free of biases and stereotypes by means of sensitization programme. The policy seeks to enhance the principle of inclusiveness whereby equity will be brought to surface and generate respect towards a culture differences among other elements such as religion, language, gender identities etc. among children, teachers and other agents working in schools. Policy implementation will lead to empowerment of stake holders in terms of effective mode of resourcing and stronger and enhanced governance and monitoring system being co-operated and supported by all schools in educating the children with disabilities. The effect will be created in terms of education through the School Complexes, which will bring about the concept of reform and empowerment of our school education system in terms of inclusion and equity among all the learners in schools, School Management Committee, School Complex Management Committees, school leaders, teachers, students and supporting staff, parents and local citizen will be called upon to join hands by offering all possible assistance to school education.

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**Transforming Teacher Education in India through Policy and Framework Alignment**

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**Abstract**

In this chapter, the author discusses different dimensions of policy and framework convergence towards reformation of Teacher Education in India. This chapter brings out the cognizance of NEP 2020 and its vision regarding teacher education as well as the introduction of national credit framework (NCrF) in teacher education institutes, National Curriculum Framework against teacher education (NCF-TE) and the pedagogical vision, the establishment of the associations of NCF-TE NCF-SE as well as governance, oversight agencies (NCTE, UGC, NCERT) and restructuring of the institutes. The significant provision of NEP 2020 and on-going curriculum Reforms coupled with the key highlights and much needed convergence of policies and frameworks toward transforming teacher education. Its appropriate application in the education system relies on the relationship between the NCrF, National Curriculum framework of teacher education (NCF-TE) and National Curriculum framework of School Education (NCF-SE) that require mapping. It is also the chapter where the authors study how the responsibilities of significant regulatory bodies like National Council of educational research and training (NCERT), University Grants Commission (UGC), National Council for Teacher Education (NCTE) have changed in cooperative ways. This chapter will touch on the challenges and opportunities of carrying out the policies and the importance of the inter- agency coordination, capacity building and constant support in establishing a quality teaching workforce in India ready to face the emerging learners in the future.

**Keywords:** Policy Framework, Quality Education, Pedagogical Vision and Curriculum

**Introduction**

The Indian policy of national education NEP 2020 describes an extreme change of the educational methods of the past thirty years. Being at the very core of this reform performance NEP 2020 is again to be implemented not only on the basis of schools and higher education but also on the basis of underlying systems that ensure the schooling and higher education. The principles will provide significant shifts in recruitment, training, critical thinking and social respect of the teachers as it is admitted that they are the foundation of high quality learning. The NEP 2020 is focusing on the objective of creating a group of thoughtful, responsible and skilled teachers that will be able to make students develop their critical thinking, creativity, values, and social emotional learning. This policy will achieve this by enhancing the scope of the faculty development programs to be more contextual and based on

conceptual and practical knowledge so as to enrich the teachers with the skills essential to the provision of modern based classrooms.

The vision outlined in NEP resonates with the wider goals of India with reference to development, such as those being outlined in the United Nations Sustainable Goals (SDGs) especially the idea of achieving inclusive, equitable and lifelong learning opportunities in all. In view of a large and youthful population of India, it is imperative to consider the incorporation of vocational education, open and flexible patterns of learning and capacity building of skilled manpower into mainstream education in order to harness the dividends of a very large population in the country.

In order to achieve these goals, NEP 2020 lays out three pillar and interconnected frameworks:

- The new pedagogical vision has been used to answer questions regarding the role of National Curriculum Framework for Teacher Education (NCF-TE) because it redefines the purpose of teacher education in light of constructivist principles, inclusivity and reflective practice.
- The NCF-SE 2023, that informs curriculum design and pedagogy at the school level is more about competency based Learning that is learner-centered.
- The National Credit Framework (NCrF), which offers an interoperable and well-liked credit-based system against the means to endorse transnational learning mobility, skills acknowledgment, and interdisciplinary learning between general and vocational spheres.

The present chapter provides a critical look at the NEP 2020 vision, goals and interrelated frameworks, especially the transformational roadmap of teacher education which will shape an equitable, inclusive, and future ready system of education in India. It also examines the institutional functions, pedagogical breakthroughs and execution issues of policy to practice which subsequently highlights the systemic changes necessary in upgrading the teacher education to a higher level as per national and international educational desires.

### **Vision of NEP 2020 for teacher Education:**

The National Education Policy 2020 points towards a unified, smoothly progressing teacher education model with an equally high standard of training in which intense training in subject specialism is incorporated and where teachers are capable of permanent reshaping and staying abreast with the dynamism in normative educational provisions and technological tendencies that 21 st century will bring along. The theory underlying this model is the teacher as the one that does not just transmit but contributes to the overall rising of students and also inspires them in practical thinking and morality. The policy indicates that Plan wants to facilitate all teachers to have a solid content knowledge, reasonable pedagogical skills and knowledge about learning child development, inclusive practices and measure of learning. NEP 2020 envisages the creation of a cadre of well trained, well equipped teachers with depth within their subject areas who would be in a position to take the students through the nitty gritty of curriculum and evaluation within the class room. It suggests experiential

learning, reflection and community interaction as the means of integrating content and pedagogy into TEPs.

The NEP also highlights the need of the multidisciplinary teacher education which is situated in large and colorful institutions of higher learning. It also facilitates mainstreaming of Indian knowledge systems, foundational literacy and numeracy, multilingualism and digital capacities into teacher training programmes. The objective is to have a professional corpus of educators who can infuse passion to learn and develop the nation. By giving teacher education a central role in its concept of reform, NEP 2020 has selected the transformational path that is congruent with the global standards but remains close to the Indian values and realities.

☞ **Key Recommendations of NEP 2020 with regards to teacher Education:**

- NEP 2020 provides a broad scope of suggestions to update the current systems and align the professional development and teacher preparation programs to the demands more closely with the future.
- One of the major adjustments, which has been suggested, is the four year Integrated Teacher Education Program (ITEP).
- This multidisciplinary BA teacher training in primary education aims to give potential teachers an excellent and continuous preparation in place of the B.Ed. models.
- All these components are closely intertwined in ITEP; these are value-based learning, pre-service practice, pedagogy and academic material.
- Based on the policy, teacher education in all multifunctional HEIs should be completed by 2030. This change is set to promote academic rigor, access to resources and subjecting student-teachers to more experiences. Major regulation will be done by the National Council for Teacher Education (NCTE) in terms of maintaining quality standards, regulation of standards and accreditation of programs.
- Another critical recommendation is the creation of a National Mission on Mentoring (NMM) so as to provide support to early teachers using a network of master mentors. This policy helps resolve the long-term complaint that there are ‘not enough early childhood educators to get to teach in a one-to-one setting and get feedback.’
- CPD has also attracted much attention; every teacher has to engage in at least 50 hours of CPD annually. The objective of this initiative will be to make educators aware of the changing technology, pedagogies and assessment tools.

Also, the NEP aims to employ digital environments, blended learning and technology towards strengthening pre-service and in-service teacher preparation. Inclusive education, gender sensitivity and diversity in teaching practices include to create an opportunity to prepare instructors to a number of conditions in the classroom. With this combination of suggestions, teaching as an occupation can be made respectable, accountable, and well supported, which is necessary to attain the larger learning objectives of NEP 2020.

**☞ Alignment with policy framework:**

The NEP 2020 has flexibility and coincides with the key national structures that have a vision of integrating the education structure. The NCrf also provides credit accumulation, recognition and transfer and hence, teacher education programs such as ITEP has a chance to offer flexibility and lifetime learning because of multiple points of entry and exit into their programs.

Conversely, there is the National Curriculum Framework of Teacher Education (NCFTE) and this forms the pedagogy and basis of the curriculum on teacher education. It makes sure that prospective teachers receive knowledge. Meanwhile, the (NCF-SE 2023) strives to bridge the gap between the two processes which are shaping minds of young generations and training their mentors so that the delicacy between what children are receiving and what educators are being prepared is balanced. Both would assist NEP in attaining its purpose of being a trained and professional teaching staff capable of operating in diverse Indian classrooms.

**Implementation of National Credit Framework in Teacher**

Education is the key to unlocking the potential of the human being and ensuring equity of a society which leads to national development. The high number of young people in India needs to be given quality formal education coupled with proper skills development so as to take advantage of the demographic dividend. Inclusive, equitable education and lifelong learning are being highlighted in the National Education Policy (NEP) 2020 and Sustainable Development Goals (SDGs) as the global and local community responses that need to be met. To do so the education system should tie vocational and skill based education to the mainstream education that is flexible, has entry points and multiple exit points, and takes cognisance of prior learning. This vision is supported by the National Credit Framework (NCrf) which facilitates the same mobility between the general and vocational education and can facilitate employability, social mobility and the emergence of responsible, skilled and globally-aware citizens who are rooted in Indian values.

**Vision of NEP 2020: Transforming Education for the Future:**

Then, NEP 2020 lays out the detailed, flexible system of education which would integrate the traditional values of Indian culture with the global needs of the present day. A mission is to develop an alternate knowledge society that is inclusive and vibrant; and achieve this by meeting the needs of all learners with access to the best quality education regardless of individual socio economic background. NEP 2020 overemphasizes the need to develop critical thinking skills, creative skills, communication skills as well as ethical values and life skills so that the children can be responsible citizens who will be academically competent, socially active, globally responsive and more focused. The key element brought out in the vision is integrating skills development and the traditional academics in favor of lifelong learning by introducing the idea of flexible entry and exit points and a credit-based curriculum to accredit the educational attainments which it particularly did through measures

such as the National Credit Framework (NCrF). The NEP 2020 aims to train complete and powerful individuals and it was prepared to face up next problems of the 21<sup>st</sup> century.

### **A. Pedagogical Vision of NCF-TE:**

NCF-TE discards the conventional and rote-oriented teacher education in favor of learner centered and constructivist methodology. The framework is preoccupied with the training of teachers capable of responding to various educational environments. Key pedagogical features include: the study cases for research and practice; handouts and manuscripts prepared by international speakers; professor-led sessions to discuss research articles; and hands-on keynote presentations.

- Multidisciplinary knowledge integration- integration of psychology, sociology, philosophy and the pedagogy of the subjects.
- Diversity in learning needs: concentrate on inclusive education, preparing the teaching staff to recognize diversity and responding to it.

This vision is very similar to that of NEP 2020 to be able to build holistic teachers who can instill the basics, creativity and critical thinking in the students.

### **B. Alignment with NCF-SE 2023**

NCF-SE 2023 defines learner-center and competency- based school education. The four stages its development phases demand fundamental literacy and numeracy, multilingualism and real-life learning. These fields require the flexibility and multi-capability of teachers.

- Competency-based education and inclusive practices are the aspects that these two frameworks pay attention to in advance.
- The focus on multilingual and culturally responsive pedagogical aspects of NCF-TE fits the need of details embodied by .
- .NCF-SE emphasis on first language teaching.
- Field internships have been incorporated into teacher education as the result of NCF-SE experiential model of learning.

Although the two reforms are congruent in terms of vision and goals, there will be obstacles that will pose their challenge in their implementation in real classroom settings.

### **C. Challenges and Limitations**

There exist certain threats to the complete fulfilment of such alignments in the case of NCF-TE and NCF-SE 2023, although the two foundations do share a common vision:

- Implementation Gap: The major implementation gap identified is that many teachers training institutions (TEIs) are unwilling to transform the traditional teaching approach and practice and holding on to the rote learning approach.
- Faculty Preparedness: Most educators need to go through a decent professional preparation.

- Resource Constraints: TEIs are struggling to provide infrastructural resources especially those in rural and under-resource communities- without proper access to the digital tools, libraries and quality school internship opportunities.
- Assessment Practices: The unavailability of examination-based assessment is by far, a disadvantage to the competency-based and formative assessment that has been highly recommended by both conceptions.
- Fragmentation of Policy and Practice: Although there is policy coherence at the national level, there are some inconsistencies in the implementation of NCF-TE that are considered to be in line with NCF-SE goals on the state level because of the variations in the state policy and independence of the institutions.
- Being Overlooked and Under Support: Insufficient facilities to monitor the implementation and give feedback prevent continuous betterment within teacher training.

Such obstacles indicate more underlying problems with the educational governance, capacity building and resource distribution issues that should be recognized when discussing the alignment of policies critically.

### **Mapping linkages between NCrF, NCF-TE and NCF for School Education (NCF-SE)**

Through the National Education Policy (NEP) 2020, education reforms in India have ushered in the creation of three transformative frameworks: the National Credit Framework (NCrF); the National Curriculum Framework for Teacher Education (NCF-TE) and the National Curriculum Framework for School Education (NCF-SE). The three frameworks deal and cover distinct parts of the education ecosystem credit transfer and Regulations, a teacher preparation and design of curriculums and school education respectively. Nevertheless, the actual positive or actual implementation leads to their interrelationship which seeks to formulate an integrated, dynamic and learner-focused system of education.

The Three Frameworks The three frameworks are designing thinking, human design and populism.

#### **A. National Credit Framework (NCrF)**

The National School Education Qualification Framework (NSEQF), National Higher Education Qualification Framework (NHEQF) and National Skills Qualification Framework (NSQF) will be enabled in the three verticals of the Meta Framework called the National Credit Framework (NCrF) to harmonize the credit system across school education and higher education systems of the country. National Credit Framework (NCrF) provides academic value of the learning as well as credit of valuation and consideration in formal and non formal education. It facilitates:

- Distribution of credits through assignment, accumulation, transfer and redemption of credits to every learning activity.
- Proper Recognition of Learning outcome

- Several points of entry and exit that prompt neverending learning and flexibility
- Aadhar-based Student Enrolment

**B. National Curriculum Framework for School Education (NCF-SE)**

National Curriculum Framework for School Education (NCF-SE) provides a detailed framework of equipping the curriculum into four development stages viz., Foundational, Preparatory, Middle and Secondary (the 5+3+3+4 structure) to the age group of 3 to 18 years. It is concentrated on:

- Multidisciplinary integration of knowledge
- Facilitates school education values and capabilities.
- Sets curriculum, pedagogical and assessment rules
- Promotes Multidisciplinary and Interdiscipline learning

**C. National Curriculum Framework for Teacher Education (NCF-TE)**

National Curriculum Framework for Teacher Education (NCF-TE) offers the guidelines on a teacher education reform in India. It has intents of meeting the need of the contemporary classroom. It fits the teacher education to the NCrf curriculum and pedagogical reforms of NCF-SE and creditization principles. It is oriented towards:

- Provision of Professional values and standards of reflective practices to teachers.
- Setting continuous teacher education and life long learning.
- Making Teacher Education and Educational Goals Match

**Linkages between NCrf, NCF-TE and NCF for School Education (NCF-SE)**

**Alignment with NEP 2020:** The great outcome and reflective light of National Education Policy (NEP) 2020, National Credit Framework (NCrf), National Curriculum Framework for School Education (NCF-SE) and National Curriculum Framework in Teacher Education (NCF-TE) would surely provide extensive and cohesive vision of a flexible, multidisciplinary and learner-centric education system in terms of school, teacher training and even life-long learning.

**Seamless Educational Continuum:** NCF-SE establishes learning outcomes of students. NCF-TE trains teachers to be ready to provide those outcomes successfully. NCrf is able to make certain outcomes measurable and easily carried between institutions.

**Competency-Based Approach:** NCF-SE pays attention to competencies and learning standards. NCF-TE works to prepare teachers to measure and develop the following skills. NCrf measures such competencies in terms of credits to meet mobility and recognition.

**Integration of Vocational Education:** NCF-SE provides students with right stage of development in vocational subjects. Pedagogies of vocational training are involved in NCF-TE. NCrf offers the credit parity of vocational education at the various levels.

**Assessment and Credit Recognition:** NCF-SE promotes the diversity of tests in order to determine the level of a student learning successfully. In this type of assessment, the teachers are taught on how to perform both formative and summative evaluation through NCF-TE. NCrf transforms the achievements in learning to standardized credits.

**Multidisciplinary and Inclusive Pedagogy:** NCF-SE promotes wide range of cross discipline learning to the students. NCF-TE embraces a wide and broad range of instructional ways in the process of delivering the interdisciplinary learning. NCrf ensures that learning is reflexive and inter-disciplinary as well as contextual.

**Teacher Empowerment and Ecosystem Support:** NCF-TE is hinged on capacity building amongst teachers. In NCF-SE, the teachers are the central figure when it comes to the delivery of the curriculum to the students. NCrf promotes the accumulation of credit in regards to professional development.

**Digital and Experiential Learning:** NCF-SE combines ICT and experience-based Quality result. The NCF-TE educates the teachers on digital pedagogy on how to aid the students. NCrf gives credit transfer for digitally and experientially-based learning.

### **Governance and Regulatory Bodies: Roles and Alignment**

#### **National Council for Teacher Education (NCTE):**

The NCTE is the highest regulatory body of teacher education in India which is made rather established as a legislative body in the year 1995 under the NCTE act. Through overseeing standards, norms and institutional structure of teacher education programmes such as B.Ed. and M.Ed. which forms one of the main sources through which an intended enhancement of the teacher education system in the nation as a whole is to be made.

With NEP 2020, NCTE has been given the additional role to:

- By redesigning the curriculum, the redesign process would incorporate how teachers are trained to not only know some basic skills (reading and writing skills) but not to forget to learn the 21 st century skills (such as critical thinking, creativity, and digital literacy) in an interdisciplinary manner.
- Program Integration: Facilitating the integrated four year teacher preparation programs of B.Ed. to ensure that pre-service teacher training is improved and linked with undergraduate education.
- Quality Assurance: The creation and implementation of the National Professional Standards for Teachers (NPST) and ensuring that preparation of teachers remains high quality and value adding.

- Capacity Building: Being the head of the initiatives such as the National Mission on Mentoring (NMM), which aims at supporting the proactive involvement of the teachers into the continuous learning and the type of mentoring.

### **University Grants Commission (UGC)**

UGC is the controlling agency of other institutions of higher education such as universities that provide teacher education degree. It is central in:

- Academic Standards: Establishing standards at the university level teacher education programs and seeing that the programs conform to the national policies.
- Funding and Support: setting aside funds to do research on teacher education, developing curricula, and building capacity of teachers.
- Collaboration: Enabling the interaction between universities and regulating organizations such as NCTE to synchronize the process of teacher education reform.

The role of UGC is of utmost importance towards actualizing the vision of NEP 2020 to become multidisciplinary and integrated teacher education at the higher education level.

### **National Council of Educational Research and Training (NCERT)**

At school levels the main academic body, which takes responsibility of curriculum formulation and ample research on the topic, is NCERT. In the field of teacher education it makes contributions as follows:

- Curriculum Frameworks: Preparing this year preparations and revision of the National Curriculum Framework for School Education(NCRF), which determines the curriculum and instruction in schools.
- Teacher Training Materials: Developing curriculum to design pedagogical materials and training, in-service and pre-service teacher training according to NEP 2020.
- Research and Innovation: Conduct research to provide policy and practice guidance to teacher education and encourage the restructuring of instruction.

The alignment of NCERT with NCTE and UGC implies that teacher education curriculum would be sensitive to the changing educational objectives and realities of the classrooms.

### **Instructional Restructuring: Transforming Teacher Education**

Instructional restructuring provision by NEP 2020 is based on a paradigm of abandoning the traditional form of rote learning system to a learner-centered and competency-based system of education. Important features are:

- Practical and experimental training This is aimed at ensuring that teachers are armed ready to face the classroom by enhancing field based workshop and internship to bridge the knowledge gap between classroom theory and practice.

- Learner- Centered Pedagogy: As opposed to the prevalent training among the teachers, the teacher education programmes have lately given more emphasis on providing the teachers with the equipment that they will require to encourage their learners and innovation.
- Professional standards/ Continuous Development: Through the Improvement of the National Professional standards for Teachers (NPST), the continuous learning and adequate motivation by the experts is also encouraged.

These constitute the reforms that must be addressed so as to be supported by regulatory bodies to create consistency.

**Policy and framework:**

These education advancements require orderly backing of authoritative institutions to have uniform execution and resource circulation. The following are the policy frameworks:

- Standardization of Teacher Education: protocol and standards ensure excellence across the boards of institutions.
- Capacity Enhancement: the capacity is built by developing the future-ready workforce of teachers through the effectively organized professional development programs.
- Inclusive and Equitable Education: the policies emphasize access and equity particularly of the deprived and the rural communities.

**Conclusion**

NEP 2020 contains an imaginative road map of transforming teacher education in India. It aims to produce a future-ready teaching profession by focusing on professional development, agile frameworks and one-stop programs. The systematic quality is achieved by compliance with the national NCrf and NCF-TE specifications. A dynamic, diverse and comprehensive teaching education environment can be developed with a dedicated implementation, a great chiefs and institutions collaboration regardless of the challenges. Indian education will definitely change as a result of this ecosystem. The National Credit Framework (NCrf) IN Teacher Education Institutions is considered to be a significant measure in making the innovative perception planned in the National Education Policy (NEP) 2020. The administration of curriculum and the role of digital credit accumulation that is incorporated with Academic Bank of Credits foundation, adaptation of skill-modules and merging with industry and community stakeholders is poetically designed. Finally, NCrf will finally support not only the innovation of more robust and inclusive teacher education ecologies but also the emergence of educators with expertise, flexibility, and able to raise the learners with aptitude and morally sound conduct.

National Curriculum Framework on teacher education (NCF-TE) envisions an excellent pedagogical perception in accordance with the commitments of the National Curriculum Framework on school education (NCF-SE 2023). The idea is that application of these structures to practice would be met with some difficulties such as they might face

infrastructural gap in bringing change in pedagogical practices by jeopardizing their desired impact. Albeit these difficulties are significant since they are intended to increase the embryonic of policy changes, which would enhance the outcomes of teacher quality and school education. National Credit Framework (NCrF), National Curriculum Framework of School Education (NCF-SE) and National Curriculum framework of teacher education (NCF-TE) are very much connected and interconnected initiatives in providing support to the educational backwardness and framework of India education and academia. Their inclusion brings Smooth Educational Continuum, Competency-Based ORIENTED, Vocational Education, Assessment and Credit Recognition, Multidisciplinary and Inclusive education, Digital and Experiential Learning in the Education arena. The collective potential needs all the policymakers, educators, institutions and communities, to work in tandem, and a clean commitment towards persistent learning and adaptation to facilitate a rise in the Indian education system.

Finally, and by no means the least, the transformation of teacher education in India involves a workable structure of policy and regulatory framework supported by restructuring of instructions. Collaborative activities of NCTE, UGC and NCERT prove to be the most crucial in the quest to operationalize the vision of NEO 2020 to ensure the development of teacher education programs that are up to date, multi-disciplinary and learner-centered. what we can deduce is that NEP 2020 does not only entail changes in policy but also gives one a complete blueprint on how to develop the landscape of teacher education in India had it been adopted dynamically and inclusively into the education ecosystem.

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**A Role of Guidance and Counselling in Student Development within the Framework of  
National Education Policy 2020**

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**Abstract**

The National Education Policy (NEP) 2020 represents a landmark reform in the Indian education system, emphasizing holistic, flexible and learner-centered approaches to teaching and learning. Within this vision, guidance and counselling emerge as critical mechanisms to support the academic, emotional, social and career-related growth of students. This chapter explores the integral role of guidance and counselling in student development and situates it within the framework of NEP 2020. The policy underscores the importance of life skills, socio-emotional learning, vocational awareness and inclusive practices, all of which are enhanced through structured counselling services. The discussion begins by outlining the historical and conceptual foundations of guidance and counselling in education, followed by an analysis of contemporary challenges faced by Indian students such as career uncertainty, mental health concerns and transition to multidisciplinary and vocational learning. It highlights how counselling services, when effectively integrated into educational institutions, can enhance academic performance, reduce dropout rates and prepare students for future careers while also supporting their socio-emotional well-being. The chapter also examines the role of educators, institutional frameworks and technology-driven platforms in delivering counselling in alignment with NEP directives. Further, it identifies barriers such as the shortage of trained counsellors, infrastructural limitations and stigma around counselling, while offering solutions through capacity-building, policy interventions and digital innovations. By linking counselling with NEP's larger goals of inclusivity, equity and holistic student development, the chapter underscores its transformative potential. Ultimately, guidance and counselling emerge not merely as supportive services but as essential pillars of student success in the NEP 2020 era.

**Keywords:** Guidance, Counselling, NEP 2020, Holistic Education, Student Development, Career Readiness, Socio-Emotional Learning.

**Introduction**

Education has long been regarded as the foundation of personal growth, social progress and national development. In India, education has historically been a vehicle not only for knowledge acquisition but also for character formation, cultural continuity and preparation for responsible citizenship. With the introduction of the National Education Policy (NEP) 2020, the country has entered a transformative phase in its educational landscape, marked by a clear shift from rote learning toward holistic, flexible and learner-

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centered approaches. NEP 2020 calls for reimagining education in a way that nurtures creativity, critical thinking, problem-solving abilities and emotional resilience in students. Within this broader framework, guidance and counselling acquire renewed significance as indispensable tools for fostering student development in a dynamic and increasingly complex world.

Guidance and counselling in education are not new concepts. Their roots can be traced back to the need for systematic support in helping students choose careers, manage academic challenges and cope with social or emotional issues. Globally, counselling practices have evolved into structured systems that address not only academic performance but also personal well-being, life skills and employability. In India, however, despite increasing recognition of the need for counselling, its implementation has remained fragmented and limited to certain schools or higher education institutions. NEP 2020 explicitly acknowledges this gap and places emphasis on comprehensive student support mechanisms, making guidance and counselling central to its vision of holistic development.

Student development today must be understood in a multidimensional manner. Academic achievement, while important, represents only one aspect of a learner's growth. Equally crucial are life skills, socio-emotional competencies, vocational readiness and the ability to adapt to rapidly changing global environments. Students often face challenges such as peer pressure, stress, anxiety, career dilemmas and socio-economic disparities, which require professional and empathetic counselling support. Guidance and counselling thus act as bridges between institutional goals and individual needs, ensuring that education serves as a means of empowerment rather than a source of exclusion or distress.

NEP 2020 envisions a system that is inclusive, equitable and holistic, preparing learners not only for employment but also for responsible participation in society. Its provisions for multidisciplinary education, flexible curricula, vocational integration and socio-emotional learning demand robust counselling frameworks within schools and higher education institutions. Counsellors are expected to play multiple roles: guiding students in making academic and career choices, supporting emotional well-being, addressing learning difficulties and helping marginalized groups integrate into mainstream education. In this sense, guidance and counselling move beyond remedial functions to become proactive, developmental and empowering processes.

The growing importance of guidance and counselling also reflects broader societal changes. The rapid pace of technological innovation, evolving job markets and the pressures of globalization require students to be prepared not just with subject knowledge but also with adaptability, resilience and decision-making skills. Simultaneously, the rise in mental health concerns among young people underscores the urgency of integrating counselling into educational institutions. Counselling services, when properly structured, can help create safe spaces for students to share their concerns, develop coping mechanisms and strengthen their confidence to face future challenges.

NEP 2020 emphasizes equity and inclusion, with a commitment to addressing the needs of students from disadvantaged backgrounds, rural areas and marginalized

communities. Counselling plays a critical role in bridging educational disparities by providing personalized support, fostering self-efficacy and ensuring that no learner is left behind. Through counselling, education can be democratized by recognizing the unique potential of every student and guiding them toward fulfilling pathways.

In light of these developments, this chapter seeks to explore the role of guidance and counselling in student development, specifically within the framework of NEP 2020. It aims to analyze how counselling can contribute to academic success, career readiness and socio-emotional growth, while also highlighting the challenges and opportunities in implementing counselling services in India. By combining theoretical insights, policy analysis and practical implications, the chapter argues that guidance and counselling are not peripheral but central to achieving NEP's vision of holistic, learner-centric education.

### **Literature Review**

Guidance and counselling evolved in the twentieth century from a primarily vocational-advising function to a broad, developmental and preventive service addressing academic, career and personal/social domains (Brown, 2002; ASCA, 2012). This tripartite model academic, career and socio-emotional has been adopted widely in professional frameworks and has influenced both research agendas and policy designs (ASCA, 2012). Over time the emphasis shifted from remedial one-to-one therapy toward whole-school approaches that incorporate universal prevention (e.g., social-emotional learning), targeted group work and individualized support, positioning counselling as a systemic contributor to school improvement rather than an ancillary service (Brown, 2002; ASCA, 2012).

A robust international evidence base demonstrates that structured school-based social-emotional learning (SEL) programs and related counselling interventions produce consistent improvements in social-emotional competencies, behaviour, mental health and academic outcomes. Durlak et al.'s meta-analysis (2011) of 213 universal SEL interventions (n ≈ 270,000 students) reported significant gains in social-emotional skills, attitudes, behaviour and academic performance an effect equivalent to an ~11 percentile-point gain in achievement for participants (Durlak et al., 2011). Follow-up meta-analytic work shows that SEL effects persist over time when programs are implemented with fidelity and supported by teacher engagement (Taylor et al., 2017). These syntheses provide strong empirical grounding for universal, curriculum-based SEL as the first tier in multi-tiered counselling models (Durlak et al., 2011; Taylor et al., 2017).

Evidence from systematic reviews of career guidance interventions indicates that structured counselling, group career workshops and experiential exposure (internships, industry visits) improve career knowledge, exploration and self-efficacy important proximal outcomes for employability (Sharapova, 2023; Wang, 2024). Group-based career guidance is often more scalable and cost-efficient than exclusively one-to-one models while still delivering meaningful gains in decision-making readiness (Sharapova, 2023). For education systems seeking to integrate vocational pathways an explicit aim of NEP 2020 these findings argue for embedding career guidance within the counselling continuum and pairing guidance

with hands-on vocational experiences to facilitate smoother school-to-work transitions (Sharapova, 2023).

Comparative policy literature highlights system features that support high-quality counselling: clear role definitions for counsellors, integration of counselling within the curriculum and assessment systems, accredited professional development, data-driven monitoring and partnership or hub-and-spoke models to extend services into underserved communities (OECD, 2019; OECD, 2024). Countries that combine national standards with local adaptability and dedicated financing for training and infrastructure tend to achieve higher coverage and better-quality delivery. These system-level lessons are directly applicable to India's scaling challenge under NEP 2020 and suggest implementation pathways such as training pipelines, quality assurance and organizational partnerships that can be adapted to local contexts (OECD, 2019; OECD, 2024).

Recent Indian research documents rising demand for counselling in schools and colleges and reports positive student outcomes where services are available (Raman, 2023; Balamurugan, 2024). Empirical studies and program evaluations in Indian settings show improvements in academic stress reduction, coping skills and career clarity following structured counselling and psychosocial interventions (Michelson et al., 2020; Raman, 2023). However, Indian studies also consistently identify implementation constraints: a shortage of professionally trained counsellors, role ambiguity where teachers perform counselling tasks without sufficient preparation, weak physical and digital infrastructure, pervasive stigma about help-seeking and sharp urban–rural inequities in access (Patrick et al., 2014; Raman, 2023; Balamurugan, 2024). Scholars emphasize that effective counselling in India must be culturally and linguistically adapted and should actively involve families and communities to overcome stigma and improve relevance (Raman, 2023).

Policy and board-level pilots provide early operational models for scale. NEP 2020 (Ministry of Education, 2020) establishes life skills, socio-emotional learning and career guidance as policy priorities, offering a clear mandate for institutionalising counselling across school and higher education systems. Recent operational initiatives such as the Central Board of Secondary Education's (CBSE) Counseling Hub-and-Spoke model and Career Guidance Dashboard (CBSE, 2025; Economic Times, 2025) illustrate practical approaches to extend professional support: larger, better-resourced 'hub' schools mentor multiple 'spoke' schools to share expertise and resources. Early press and pilot reports suggest these models can cost-effectively expand access, though rigorous, peer-reviewed outcome evaluations are still limited (CBSE, 2025; Times of India, 2025). Evaluations of non-specialist delivered mental health interventions in India (e.g., brief problem-solving by lay or school counsellors) demonstrate feasibility and positive short-term outcomes, pointing to the promise of task-shifting when specialist resources are scarce (Michelson et al., 2020).

Global and Indian literatures converge on a model in which universal SEL curricula are tightly integrated with counselling and referral mechanisms. Meta-analyses show universal SEL reduces emotional distress and supports academic engagement (Durlak et al., 2011; Taylor et al., 2017). Indian commentaries and reviews argue that, in addition to

classroom SEL, institutions require referral pathways to trained counsellors and community mental health services to manage moderate and severe difficulties (Raman, 2023; Balamurugan, 2024). Family and caregiver engagement is repeatedly highlighted as essential in India to reduce stigma and ensure continuity of support outside school (Raman, 2023).

Across jurisdictions, the literature highlights persistent barriers: workforce shortages, weak training pipelines, limited monitoring, role confusion (teachers vs. specialist counsellors), financing constraints and cultural stigma. Proposed remedies include: (1) establishing accredited pre-service and in-service training for counsellors and teachers; (2) adopting multi-tiered delivery models combining universal SEL, group counselling and individualized support; (3) deploying hub-and-spoke and blended (in-person + digital) delivery to expand reach; and (4) building robust monitoring-and-evaluation systems to support iterative improvement and accountability (OECD, 2019; Raman, 2023; Sharapova, 2023). Indian researchers further call for implementation studies and cost-effectiveness analyses to guide resource allocation decisions under NEP 2020 (Raman, 2023; Wang, 2024).

Notwithstanding positive signals, key gaps constrain large-scale translation: a paucity of longitudinal randomized evaluations of counselling models in low-resource Indian contexts; limited cost-effectiveness evidence comparing one-to-one, group and hub-and-spoke modalities; and few studies assessing fidelity and mechanisms of culturally adapted SEL curricula. Future research should prioritize mixed-methods, implementation-science designs that examine not only impact but also pathway mechanisms, contextual moderators and scalability constraints. Such evidence will be crucial for operationalising NEP 2020's counselling and vocational guidance ambitions in ways that are evidence-based, equitable and feasible at scale (Wang, 2024; Raman, 2023).

The accumulated evidence from international meta-analyses and Indian empirical work supports the centrality of guidance and counselling to NEP 2020's vision of holistic, inclusive and vocationally relevant education. To convert NEP's policy intent into measurable outcomes, India will need a pragmatic implementation architecture: universal SEL integrated into curricula; accredited training pipelines for counsellors and teacher-advocates; hub-and-spoke and digital-blended service models to increase reach; and mandated monitoring and evaluation. Without such an evidence-informed implementation strategy, NEP's counselling aspirations risk remaining aspirational rather than transformative.

### **Guidance and Counselling in Student Development**

Guidance and counselling in education has moved beyond being a remedial support mechanism; it is now recognized as a core developmental process contributing to students' academic achievement, career preparation, socio-emotional well-being and holistic growth. Research across disciplines consistently demonstrates that when educational institutions embed structured guidance and counselling systems, students exhibit not only improved academic performance but also enhanced resilience, employability and ethical sensitivity (Durlak et al., 2011; Raman & Thomas, 2023). Within the framework of India's National Education Policy (NEP) 2020, these domains are highly significant because the policy

explicitly emphasizes holistic and multidisciplinary education, integration of vocational pathways and socio-emotional well-being as central pillars of student development (Ministry of Education, 2020).

### **Academic Development**

Academic success is often conceptualized as the most immediate outcome of counselling services. Counsellor's support personalized learning pathways by helping students identify their learning styles, manage time effectively and overcome barriers such as academic stress or language challenges. For instance, Sink et al. (2008) found that U.S. students in schools with comprehensive counselling programs demonstrated higher achievement scores compared to those in schools with minimal counselling support. Similarly, in India, Balamurugan (2024) documented that structured counselling sessions addressing study habits and stress management significantly improved examination outcomes and reduced absenteeism.

Dropout reduction is another critical contribution. UNESCO (2017) emphasized that personalized counselling interventions such as mentoring, remedial academic support and socio-emotional check-ins are directly linked to improved retention, particularly among first-generation learners. Indian evidence echoes this: a study by Jayaraman and Jayanthi (2018) found that schools offering consistent academic guidance recorded lower dropout rates, especially among rural students at risk of early exit due to socio-economic pressures. Counselling thus functions not merely as remedial but as preventive support, enabling continuity of learning.

### **Career Development**

Career readiness has become increasingly important in an era defined by rapidly changing labour markets and the demand for transferable skills. Counsellors play a pivotal role in vocational guidance by helping students understand career options, identify their aptitudes and build employability skills. Internationally, OECD (2019) reported that students who participated in structured career counselling were more likely to make informed higher education choices and secure employment in fields aligned with their skills. This function aligns directly with NEP 2020's mandate to mainstream vocational education from Grade 6 onwards. Early exposure to career pathways, coupled with counselling, prepares students for multiple exit and re-entry points within the education system. For example, Sharapova (2023) showed that group-based career guidance workshops enhanced students' decision-making confidence and career clarity. Similarly, an Indian case study by Sultana and Watts (2018) highlighted that integrating industry visits, counselling sessions and aptitude assessments helped secondary school students, particularly from disadvantaged backgrounds, aspire toward higher education and skilled employment.

Career counselling is not restricted to individual decision-making but extends to skill-building. Counsellors often coach students in communication, adaptability, teamwork and digital literacy competencies flagged by both the World Economic Forum (2020) and Indian

skill-gap reports as essential for employability. Therefore, career guidance under NEP 2020 is not an auxiliary service but a transformative tool linking education to livelihood.

### **Socio-Emotional Development**

Academic and career growth are incomplete without socio-emotional development. Counselling interventions in this area address mental health, stress management, self-esteem and peer relationships. Durlak et al. (2011) demonstrated through a meta-analysis of over 200 SEL programs that students participating in socio-emotional interventions showed improved classroom behaviour, reduced anxiety and significant gains in academic achievement.

In India, the burden of academic pressure and exam-related stress has been widely documented. A National Crime Records Bureau (NCRB, 2022) report highlighted the alarming number of student suicides linked to academic stress. Counselling services targeting emotional resilience, mindfulness and coping skills can serve as protective buffers. Michelson et al. (2020), in a controlled trial in New Delhi, found that brief problem-solving counselling delivered by trained lay counsellors significantly reduced adolescent depression and anxiety.

Peer relationship management is another domain where counselling makes a difference. Research shows that positive peer interactions correlate with higher engagement and lower dropout risks (Wentzel & Caldwell, 1997). In the Indian cultural context, where collectivist orientations emphasize group harmony, counselling that fosters empathy, conflict resolution and inclusivity is particularly relevant. Such interventions help create safer school climates and reduce bullying outcomes that NEP 2020 regards as central to holistic well-being.

### **Holistic Growth**

Beyond academic, career and socio-emotional domains lies the broader goal of holistic growth. This includes cultivating values, ethics, cultural sensitivity and global citizenship dimensions explicitly embedded in NEP 2020's vision. Counselling in this context is not only psychological support but also moral and ethical scaffolding. Past studies highlight that value-based counselling improves prosocial behaviour, civic participation and intercultural awareness (Arthur & Collins, 2010). In India, programmes integrating counselling with yoga, meditation and value education have shown positive impacts on student discipline and community engagement (Tripathi, 2019). Such integration resonates with India's civilizational ethos, where knowledge is traditionally seen as intertwined with ethical and spiritual development.

Socio-cultural awareness is particularly crucial in diverse Indian classrooms. Counsellors can help bridge divides related to caste, class, gender and language, thereby supporting inclusive education. For instance, Raman and Thomas (2023) emphasize that culturally sensitive counselling practices conducted in local languages and involving family members are more effective in improving acceptance and retention. This reinforces NEP 2020's emphasis on inclusivity, equity and holistic student development.

### **Discussion and Synthesis**

Synthesizing global and Indian research makes clear that guidance and counselling serve as a multi-dimensional enabler of student development. Academic benefits include higher achievement and lower dropout rates; career benefits encompass informed choices and employability readiness; socio-emotional benefits involve reduced stress and stronger peer connections; and holistic benefits extend to values, ethics and socio-cultural competence. The literature also cautions against viewing counselling as a one-size-fits-all solution. Effectiveness depends on context-specific adaptation, professional training and systemic support. Indian research underscores challenges such as shortage of qualified counsellors, urban–rural disparities and stigma surrounding help-seeking (Balamurugan, 2024). Addressing these requires innovative models such as CBSE’s hub-and-spoke career guidance dashboard (Economic Times, 2025), community-based counselling and digital platforms.

In conclusion, guidance and counselling occupy a pivotal position in operationalizing NEP 2020’s vision of holistic, inclusive and multidisciplinary education. When implemented with cultural sensitivity and systemic support, they not only improve individual student outcomes but also contribute to building an education system that nurtures resilience, creativity and ethical citizenship.

### **Challenges and Opportunities in Guidance and Counselling**

Guidance and counselling in India’s educational context is undergoing transformation under the National Education Policy (NEP) 2020, which emphasizes holistic development, career readiness, socio-emotional well-being and vocational integration (Ministry of Education, 2020). While the policy provides a strong enabling framework, its implementation faces several structural, cultural and resource-based challenges. At the same time, NEP 2020 creates new opportunities to reimagine counselling services in ways that are scalable, inclusive and aligned with global best practices.

### **Lack of Trained Counsellors and Infrastructure Gaps**

One of the most pressing challenges is the acute shortage of professionally trained counsellors across schools and higher education institutions. According to Balamurugan (2024), many Indian schools either lack dedicated counsellors entirely or rely on teachers performing dual roles without specialized training. This shortage is compounded by inadequate physical infrastructure counselling rooms, private spaces for sessions and digital platforms for tele-counselling which restricts the scope and effectiveness of interventions.

Globally, research shows that the quality of counselling correlates directly with professional training and resources. Durlak et al. (2011) emphasized that SEL and counselling interventions are most effective when delivered by trained personnel in structured settings. Indian experiences mirror this: Raman and Thomas (2023) found that schools with trained counsellors recorded better student engagement, lower stress levels and improved academic outcomes compared to schools relying solely on teacher-mediated guidance.

NEP 2020 addresses these deficits by recommending dedicated counsellor positions, professional development programs and infrastructure investments. However, translating policy into practice will require careful planning, financial allocation and coordination with state education departments and boards.

### **Stigma around Counselling in Indian Educational Institutions**

Cultural stigma surrounding counselling remains a significant barrier. Many students, parents and even teachers perceive counselling as a service for “problematic” or underperforming students rather than a proactive developmental tool (Raman, 2023; Tripathi, 2019). This stigma limits voluntary uptake, discourages help-seeking behaviour and can marginalize students who need early support. Research from India and other collectivist cultures shows that stigma is closely tied to fears of social judgment, misconceptions about mental health and lack of awareness (Michelson et al., 2020; Sultana & Watts, 2018). Studies in urban and semi-urban schools in India suggest that integrating counselling into mainstream academic and career guidance reduces perceived stigma and normalizes the use of support services (Raman, 2023). NEP 2020’s emphasis on embedding life skills, socio-emotional learning and career guidance within the curriculum offers an opportunity to normalize counselling. Systematic orientation sessions, awareness campaigns and teacher-led SEL programs can help shift perceptions and create a culture where counselling is seen as an essential part of education.

### **Bridging Urban-Rural Disparities in Access to Counselling**

India’s vast geographical and socio-economic diversity presents challenges in providing equitable access to counselling services. Urban schools often have better-trained counsellors, infrastructure and digital connectivity, whereas rural and remote schools face shortages of trained personnel, inadequate facilities and limited exposure to career and life-skills guidance (Balamurugan, 2024; Jayaraman & Jayanthi, 2018). Evidence from pilot programs shows that hub-and-spoke models, tele-counselling and mobile guidance units can mitigate these disparities. For example, CBSE’s hub-and-spoke counselling initiative (Economic Times, 2025) uses resource-rich “hub” schools to provide support to smaller or rural “spoke” schools. Tele-education and online SEL programs also offer scalable solutions, particularly when integrated with local community engagement and culturally relevant content (NIMHANS, 2021; Raman & Thomas, 2023). To fully realize NEP 2020’s vision, bridging urban-rural gaps will require targeted policy measures, investment in digital infrastructure and context-sensitive training for local educators and paraprofessionals.

### **Opportunities Leveraging NEP 2020**

Despite these challenges, NEP 2020 provides significant opportunities for transformative change in guidance and counselling. Its focus on flexibility, multidisciplinary education and life skills creates a fertile environment for integrating counselling into every aspect of student development. Flexibility in Curriculum Design: By allowing students to

choose subjects and career streams according to their interests, NEP 2020 creates a natural need for career counselling and guidance to help students make informed decisions (Ministry of Education, 2020). Counsellors can act as facilitators of choice, helping students align their strengths, values and aspirations with academic and vocational pathways.

- ☞ **Multidisciplinary Education:** NEP encourages exposure to multiple disciplines, enabling students to explore varied interests. Counsellors can guide students in navigating interdisciplinary choices, developing transferable skills and identifying new career opportunities (Sharapova, 2023).
- ☞ **Life Skills Development:** NEP 2020 emphasizes socio-emotional learning, mental health, ethical awareness and resilience-building. Counselling services can be embedded in SEL programs to foster emotional intelligence, coping strategies, peer collaboration and ethical decision-making (Durlak et al., 2011; Raman, 2023).
- ☞ **Digital and Technological Opportunities:** The policy encourages leveraging technology for learning and student support. Counselling can be delivered via online portals, apps and virtual career dashboards, expanding access and enabling data-driven monitoring of student well-being (CBSE, 2025; OECD, 2024).
- ☞ **Equity and Inclusion:** NEP's focus on inclusive education enables targeted counselling interventions for marginalized, disadvantaged and special-needs students, helping bridge historical inequities and promoting social mobility (Raman, 2023; Tripathi, 2019).

The challenges of implementing counselling in India shortage of trained counsellors, infrastructure deficits, stigma and urban-rural inequities are significant but not insurmountable. The opportunities created by NEP 2020, particularly in curriculum flexibility, multidisciplinary exposure, life skills, digital interventions and inclusive education, provide a strong foundation for systemic reform.

Past research and emerging Indian case studies suggest that strategic alignment of policy, capacity-building, technology and community engagement can transform counselling from a peripheral service into a core enabler of student development (Durlak et al., 2011; Raman & Thomas, 2023; Sharapova, 2023). By addressing structural gaps while leveraging policy-driven opportunities, India can build a holistic, accessible and evidence-based counselling ecosystem that supports academic, career, socio-emotional and holistic growth.

### **Findings and Discussion**

The implementation of guidance and counselling in Indian educational institutions offers compelling evidence of its central role in achieving NEP 2020's holistic development goals. The policy emphasizes academic excellence, socio-emotional well-being, career readiness and inclusive education (Ministry of Education, 2020). Findings from both

international and Indian studies reveal that when counselling services are systematically integrated into schools and higher education institutions, students demonstrate measurable improvements across multiple developmental domains.

Counselling aligns directly with the core objectives of NEP 2020: fostering holistic, multidisciplinary and skill-oriented education. First, academic development is enhanced as counsellors provide personalized learning pathways, remedial support and study-skills interventions, reducing dropout rates and increasing retention (Balamurugan, 2024; Durlak et al., 2011). Second, career development is strengthened through vocational guidance, psychometric assessments and exposure to industry and higher-education options, helping students make informed decisions and enhancing employability skills (Sharapova, 2023; Sultana & Watts, 2018). Third, socio-emotional development is promoted through stress management, conflict resolution and resilience-building initiatives, which directly support student well-being (Michelson et al., 2020; Raman, 2023). Finally, counselling facilitates holistic growth, integrating ethical, cultural and value-based learning into student development, consistent with NEP 2020's vision of inclusive and socially responsible education (Tripathi, 2019).

Thus, counselling is not a peripheral activity; it serves as an enabling mechanism that operationalizes NEP 2020 goals by creating environments where academic, personal and vocational growth are simultaneously supported.

Empirical studies provide robust evidence that counselling interventions improve student outcomes. Meta-analytic research on social-emotional learning (SEL) programs shows that students receiving structured counselling demonstrate improved academic achievement, reduced anxiety, enhanced social skills and greater engagement (Durlak et al., 2011; Taylor et al., 2017). In India, Raman (2023) documented that schools with dedicated counselling programs experienced higher examination scores, improved attendance and lower stress-related absenteeism compared to schools lacking structured guidance services.

Career counselling also yields measurable gains. Sharapova (2023) found that secondary school students participating in career guidance workshops reported higher career decision-making self-efficacy and better alignment between academic choices and personal interests. Similarly, Michelson et al. (2020) observed that problem-solving interventions delivered by trained lay counsellors in New Delhi led to significant reductions in depressive and anxiety symptoms among adolescents. Collectively, these findings demonstrate that counselling produces tangible benefits across academic, vocational and psychosocial domains, validating its inclusion as a systemic component of NEP 2020.

### **Case Studies of Successful Models in Indian Higher Education**

Several Indian higher education institutions have pioneered innovative counselling models that offer practical insights for scaling NEP-aligned interventions.

- ☞ **Hub-and-Spoke Counselling in CBSE Schools:** Launched in 2025, this model links resource-rich “hub” schools with smaller “spoke” schools, providing centralized counselling expertise while supporting local capacity building. Early evaluations

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indicate improved access to career guidance, SEL programs and referral services in underserved areas (Economic Times, 2025).

☞ University Career and Counselling Centres: Institutions such as Jawaharlal Nehru University (JNU) and Tata Institute of Social Sciences (TISS) have integrated counselling into academic and career development programs, offering psychometric testing, career mentoring and socio-emotional support. These initiatives have shown increased student engagement, higher internship placement rates and improved mental health awareness (Raman & Thomas, 2023).

☞ Digital Blended Counselling Platforms: NIMHANS and other institutions have experimented with tele-counselling combined with in-person sessions, particularly during COVID-19. Findings suggest high student uptake, reduced wait times and enhanced continuity of support (NIMHANS, 2021).

These case studies collectively highlight that multi-tiered, culturally sensitive and technologically supported counselling interventions are feasible and effective within the Indian context.

### **Policy-Practice Gaps and Recommendations**

Despite these successes, several policy-practice gaps persist:

- Shortage of trained counsellors: NEP 2020 mandates counsellor appointments, but implementation at scale remains inconsistent, especially in rural and low-income schools (Balamurugan, 2024).
- Infrastructure and resource constraints: Many institutions lack private counselling spaces, digital platforms and standardized assessment tools (Raman, 2023).
- Stigma and low uptake: Cultural perceptions of counselling as remedial rather than developmental continue to limit voluntary engagement (Tripathi, 2019).
- Urban-rural disparities: Access to counselling services is significantly higher in urban areas, leaving rural students underserved (Jayaraman & Jayanthi, 2018).

### **Conclusion**

Guidance and counselling occupy a central role in fostering holistic student development, encompassing academic growth, career readiness, socio-emotional well-being and ethical-cultural maturation. Evidence from both international meta-analyses and Indian studies demonstrates that structured counselling interventions significantly enhance learning outcomes, reduce dropout rates, improve mental health and prepare students for informed career decisions (Durlak et al., 2011; Raman & Thomas, 2023; Sharapova, 2023). These findings reinforce that counselling is not merely a remedial service but a proactive, developmental and preventive mechanism that addresses the multi-dimensional needs of students. Within the framework of NEP 2020, counselling emerges as a catalyst for realizing

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the policy's vision of holistic, flexible and learner-centric education. By integrating academic guidance, socio-emotional learning, vocational exposure and value-based education, counselling operationalizes the policy's goals, enabling students to navigate educational choices, develop life skills and build resilience. Indian case studies, such as the CBSE hub-and-spoke model and university-based counselling centers, illustrate practical pathways for embedding these services at scale while addressing inclusivity and equity challenges (Economic Times, 2025; Raman & Thomas, 2023).

Looking forward, a comprehensive roadmap is essential to fully harness counselling's potential. Key priorities include strengthening professional capacity through accredited training programs, institutionalizing monitoring and evaluation systems, leveraging digital technologies for blended counselling delivery and promoting awareness to reduce stigma around help-seeking. Additionally, future research should focus on longitudinal studies, implementation science and culturally responsive models to optimize effectiveness and scalability. By aligning policy, practice and evidence-based research, guidance and counselling can transform Indian education into a system that is truly learner-centric, inclusive and globally competitive, fulfilling the holistic aspirations of NEP 2020.

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**Digital Pedagogy, Blended Learning and EdTech Integration in Teacher Preparation**

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**Abstract**

The twenty-first century has ushered in a transformative era in education, marked by the pervasive influence of digital technology and the redefinition of teaching-learning paradigms. Within this rapidly evolving landscape, teacher education programs must move beyond traditional instructional frameworks to incorporate digital pedagogy, blended learning models and educational technology (EdTech) as integral components of teacher preparation. This integration represents not only a pedagogical innovation but a necessary evolution toward learner-centered, adaptive and technology-empowered education systems. The COVID-19 pandemic acted as a global catalyst for this transition, revealing significant disparities in digital access, institutional readiness and teacher competency. These challenges underscored the urgent need for educators to develop digital fluency, pedagogical adaptability and a critical understanding of technology's role in learning. Consequently, teacher education institutions are rethinking curriculum design, teaching practices and assessment strategies to embed blended learning and technology integration in both pre-service and in-service teacher training. This chapter examines the key dimensions of digital pedagogy in teacher preparation, focusing on curriculum restructuring, digital literacy development, pedagogical innovation and the ethical and inclusive use of technology. It explores successful models and frameworks of EdTech integration ranging from Learning Management Systems (LMS) and flipped classrooms to MOOCs, AI-driven learning environments and virtual simulation tools. Moreover, it discusses the roles of teacher educators, institutional leaders and policymakers in establishing supportive digital ecosystems that encourage experimentation, collaboration and reflective practice. Ultimately, the chapter emphasizes that technology integration in teacher education should transcend mere tool adoption. It should cultivate educators who can critically and creatively leverage digital resources to enhance learning engagement, equity and quality. By embedding digital competence, pedagogical innovation and ethical awareness at the core of teacher preparation programs, institutions can empower future educators to become digitally confident, pedagogically resilient and globally competent professionals, capable of transforming education in the digital age.

**Keywords:** Digital Pedagogy, Blended Learning, Educational Technology (EdTech), Teacher Education, Pre-service Teachers, Remote Learning, Digital Competency, Instructional Design, COVID-19, Education Policy, Technological Fluency, Teacher Preparation Programs

## **Introduction**

The 21<sup>st</sup> century has seen the most revolutionized education change caused mostly by the enhancement of digital technology. Within this changing environment, the teacher preparation programs will have to be modified to have elements in it, which not only recognize but also actively incorporate technology in pedagogy. Digital pedagogy, blended learning approaches and educational technologies (EdTech) have proven not to be a distant practicality to be achieved but the must-have background to a teacher who needs to relocate comfortably in the contemporary world of education. It is the next step beyond learning and using tools, but a transformation of basic ideas of instruction design to bring more active, individualized and high effectiveness learning to the learners. The pandemic driven by COVID-19 added additional pressure on these changes as it traced a vivid contrast in the ability to access, readiness and capacity of educators and learners. During the process of adjusting to remote and hybrid forms of teaching in classrooms around the globe, teachers learned an important lesson, that the foundation of teacher preparation should include digital competencies. This was a world transformation and it opened up a demand of the skill of adaptive teaching, technological literacy and capacity to create equal learning space notwithstanding the sense of physical closeness. This chapter discusses the importance of digital pedagogy, blended learning and EdTech to teacher education, its models, tools, challenge and policy directions that should incorporate meaningful integration of digital pedagogy and blended learning into teacher education. Furthermore, it highlights the importance of teacher educators, leadership of the institution and policy structures in achieving the transformation. This will be to instill the pedagogical vision and practical skills in a pre-service teacher in order to tap the efficiency of technology and the potential of true educational innovation.

## **Review of Literature**

The discourse on digital pedagogy and educational technology (EdTech) integration in teacher preparation has gained unprecedented attention over the past two decades. The rapid digitization of education and the paradigm shift from teacher-centered to learner-centered approaches have transformed the very nature of teacher education. Scholars and policymakers alike have underscored the necessity of embedding technology into pedagogical design, curriculum delivery and professional learning frameworks (Mishra & Koehler, 2006; Laurillard, 2012).

Digital pedagogy emerged as a response to the evolving needs of 21st-century learners, emphasizing technological fluency, creativity and collaborative learning. The TPACK model (Technological Pedagogical Content Knowledge) by Mishra and Koehler (2006) remains one of the most influential frameworks guiding teacher educators in integrating technology meaningfully into teaching practices. Building on this, Koehler et al. (2013) highlighted that effective digital pedagogy requires the harmonious intersection of technological tools, pedagogical principles and disciplinary knowledge. Similarly, Laurillard (2012) proposed a conversational framework for digital learning that positioned technology as a medium for dialogic and reflective learning experiences.

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In the Indian context, Sharma (2018) and Singh and Chauhan (2019) emphasized that digital pedagogy must be culturally contextualized. They observed that many teacher education institutions in India still rely on traditional didactic approaches, with limited digital infrastructure and inadequate professional development for teacher educators. These findings underline the need for rethinking teacher preparation programs to align them with digital pedagogical competencies.

Blended learning is a strategic combination of face-to-face and online instruction—has become a cornerstone of contemporary teacher education. Graham (2013) characterized blended learning as a transformative pedagogical approach that enhances flexibility, student autonomy and active engagement. Studies by Halverson et al. (2014) and Bonk and Graham (2012) indicated that blended models support differentiated instruction and encourage reflective learning practices among pre-service teachers.

Das and Paul (2019) found that blended learning environments in B.Ed. and M.Ed. programs improved student-teachers' digital confidence and content mastery. Similarly, Naidu (2020) reported that blended learning in teacher education fosters collaborative problem-solving and helps bridge the gap between theory and classroom practice. However, research also cautions that successful blended learning requires continuous mentoring, infrastructure support and faculty readiness (Kumar & Kaur, 2020).

The proliferation of EdTech platforms, Learning Management Systems (LMS), Massive Open Online Courses (MOOCs) and AI-assisted instructional tools—has redefined how teachers are trained. Bates (2015) argued that technology's effectiveness lies not merely in access but in its pedagogical alignment with learning objectives. Studies by Redecker and Punie (2017) and OECD (2019) found that digitally integrated teacher training enhances instructional design capabilities and fosters a culture of lifelong learning among educators.

In India, initiatives such as SWAYAM, DIKSHA and NPTEL have expanded access to online teacher education resources (MHRD, 2020). Joshi and Mehta (2021) observed that pre-service teachers using DIKSHA reported higher digital literacy and improved confidence in lesson planning. However, they also identified limitations in interactivity, assessment mechanisms and localization of content. These findings suggest that EdTech tools should be adopted through a blended and contextually adaptive approach rather than as one-size-fits-all solutions.

Teacher readiness to integrate digital technologies has been a recurring theme in the literature. UNESCO (2018) defined digital competency as a multifaceted construct encompassing technical, cognitive and socio-ethical dimensions. Instefjord and Munthe (2017) found that teacher educators' own digital proficiency directly influences pre-service teachers' confidence and classroom technology use. Similarly, Tondeur et al. (2019) emphasized that teacher preparation programs must embed digital literacy training into their core curricula rather than treating it as an add-on component.

Indian studies echo similar concerns. Saini and Kaur (2021) highlighted that many teacher educators in India demonstrate positive attitudes toward technology but lack adequate hands-on experience. Sahu and Bansal (2022) pointed out that rural teacher education colleges face

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infrastructural constraints, insufficient devices and unstable internet connectivity, limiting meaningful technology integration. These findings reinforce the argument for systemic capacity-building programs to ensure equitable digital readiness across institutions.

The COVID-19 pandemic served as an inflection point in teacher education globally. Hodges et al. (2020) introduced the term Emergency Remote Teaching (ERT) to distinguish between unplanned online teaching during the pandemic and well-designed online learning environments. The crisis underscored the urgency for teacher educators to acquire digital facilitation skills, adopt flexible assessment strategies and foster socio-emotional learning in virtual contexts (Trust & Whalen, 2020).

Indian research during and after the pandemic presents valuable insights. Joshi, Vinaya and Bapat (2021) found that online teacher training programs improved teachers' confidence in using digital platforms but also caused fatigue and reduced interpersonal engagement. Patel and Mehta (2022) emphasized that the pandemic accelerated the acceptance of blended learning as a sustainable model for teacher education. The National Education Policy (NEP) 2020 also advocates technology integration across teacher preparation and continuous professional development (Government of India, 2020).

Institutional support and policy frameworks are critical enablers of digital transformation. Bates and Sangra (2011) suggested that digital integration requires systemic alignment between curriculum goals, infrastructure and professional development. The European Commission (2020) framework on Digital Competence for Educators (DigCompEdu) provides a comprehensive roadmap for developing teacher digital competence. In India, the University Grants Commission (UGC, 2021) and National Council for Teacher Education (NCTE, 2022) have introduced digital initiatives and guidelines promoting ICT-enabled teacher education. Nonetheless, Sharma and Gupta (2023) noted a persistent gap between policy intent and institutional practice, often due to lack of monitoring, training and contextual adaptability.

### Emerging Trends and Research Gaps

Recent studies highlight emerging areas such as artificial intelligence in teacher education, immersive simulations and data-driven personalized learning. Holmes et al. (2022) argued that AI can enhance teacher preparation through adaptive feedback systems and virtual classrooms. However, ethical considerations, digital divide issues and the need for human-centered pedagogy remain central challenges. Despite substantial progress, research still identifies gaps. Few longitudinal studies examine the sustained impact of digital pedagogy on teaching quality. Additionally, limited attention has been given to integrating digital well-being, cyber ethics and cultural inclusivity within teacher preparation programs (Jandhyala & Bansal, 2023). Addressing these gaps will be essential for building resilient, equitable and future-ready teacher education systems.

### Digital Pedagogy

Digital pedagogy is an integrated tactical outlook on instructing and learning that exclusively uses computerized instruments, resources as well as pedagogies in order to

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improve the learning process through engagement, cooperation and comprehension. It is not merely making technology; instead, it is to transform teaching with the requirements of the learners in the digital age. Good digital pedagogy considers the multimedia elements, interaction and real time response as well as virtual collaboration in order to foster greater learning. It also promotes acquisition of the 21<sup>st</sup> century skills of critical thinking problem-solving, digital literacy and accountable digital citizenship. Deep down, digital pedagogy is learner-centered, channelling the power of a student in the learning process via digital means, no longer focusing on the traditional approach and being subjected to the scope of a teacher.

☞ **The key aspects of digital pedagogy include:**

#### **A. Designing adaptive and accessible learning environments**

This includes the generation of material and activities that appeal to unique learning styles and needs and indulge features such as text to speech, variable font size and alternative input formats in digital spaces. As an instance, applying principles of Universal Design of Learning (UDL) in order to make the digital resources accessible to students with and without disabilities.

#### **B. Facilitating learner autonomy and self-regulated learning**

Providing students with choices in how they learn, access resources and demonstrate understanding, often through personalized learning paths enabled by technology. This could involve self-paced modules, interactive simulations or project-based learning where students manage their own progress with digital tools.

#### **C. Promoting inclusivity through differentiated instruction**

Take technologies to customize content and activities to the needs of the individual students, scaffold support or offer more advanced challenges as needed. Such cases are adaptive learning software that adapts the difficulty levels according to the performance or customized feedbacks through digital platforms.

#### **D. Encouraging innovation and creativity in lesson delivery**

Beyond PowerPoing, to more media rich, active and interactive activities that involve the students in the new engaging approaches. These could include introduction of virtual reality (VR) field trips, augmented reality (AR) interactive science experiments or digital tools used to create stories.

#### **E. Fostering active learning and constructivist approaches**

Using the digital devices to support the interactions, peer feedback, solving problems collectively and creating knowledge instead of passive consumption. Consider online discussion boards in which to debate asynchronously, collaborative whiteboards to brainstorm or shared online portfolios to present work.

### **Theoretical Underpinnings**

Digital pedagogy and EdTech integration are grounded in several educational theories and models:

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**A. TPACK Framework (Technological Pedagogical Content Knowledge)**

In this model, it emphasized the need to integrate the content knowledge (CK), the pedagogical knowledge (PK) and the technological knowledge (TK) in order to develop effective teaching practice. It also makes educators consider careful choices and incorporation of tools within their pedagogical objective as well as their subject content. The teacher with TPACK knowledge is not only able to know how to use a certain application (TK), but also how the application can most effectively teach a specific subject (CK) in an exciting manner (PK). As an example, understanding of how simulation software (TK) can be effective in physics principles (CK) teaching in the form of inquiry-based learning (PK).

**B. SAMR (Substitution, Augmentation, Modification and Redefinition) Model**

SAMR model is a continuum of technology integration that begins with Substitution (straight forward replacement of traditional tools) and moves through Augmentation (improved features of the school), Modification (added flexibility of the school) and concludes with Redefinition (designing of new learning tasks that previously was unimaginable). This model helps teachers put the scope of their usage of technology in place as well as foster transformational practice. i.e., writing in a word processor rather than with pen and paper is Substitution, whereas writing on a shared document in real-time with classmates in distant places to co-author a story is Redefinition.

**C. Bloom's Digital Taxonomy**

In this updated form of Bloom Taxonomy, the higher-order thinking skills are made to correlate with digital tools and activities, so that the teacher would be able to organize tasks to foster thinking-based analyzing, evaluating and creating which would be conducted with the help of utilization of digital tools. Rather than "recording" some facts, they may be encouraged to "develop" a presentation giving out facts on a historical event (Creating) or make judgments on the trustworthiness of the information obtained online with the help of a digital rubric (Evaluating).

**D. Connectives**

Although it is not addressed clearly, one of the theories of learning in the digital age called Connectives asserted that knowledge is present in connections and networks. It implies that the learning is associated with the network-building and linking sources of information. The aspect of collaborative and networked digital pedagogy is based on this theory. It brings out the significance of social learning networks, virtual communities of practice and being able to learn and navigate large volumes of information that are found online. Collectively, the models provide a strong framework of ensuring the development of teacher education program that can respond to the digital era. They offer a framework through which teacher educators can examine, formulate and assess technology enhanced learning experiences to make sure that there is a pedagogical intention behind the use of technology.

**Digital Pedagogy in Teacher Education**

In teacher education, digital pedagogy must be integrated as both content and practice. Pre-service teachers should not only learn about digital pedagogy but also experience it first-hand. This involves:

**A. Digital Content Creation and Curation**

The ability to develop lessons that are interactive and multimedia rich through tools like Canva, Google Slides and video editing tools used in education plays the role of teacher candidates needed to be trained in advance. They have to be taught to analyze online sources of information in terms of their credibility, relevance and cultural responsiveness. This covers learning about Copyright, fair use and open educational resources (OER) to morally address available sources and reuse their content. Labs may include producing an interactive module exploring a lesson or making an informative graphic to illustrate an abstruse idea.

**B. Digital Assessment Strategies**

Educators in the future ought to learn the use of formative assessment tools such as Socrative, Mentimeter and Google forms as well as summative assessment tools. They provide information on the progress of the students that can be data-derived and guides individualized learning trails. In addition to multiple-choice quizzing, this goes as far as applying the digital rubrics to evaluating the performance of the students, designing polls that require participation to assess the current knowledge and participating in the learning analytics dashboarding activity to understand what is being overlooked in learning.

**C. Collaborative Learning Platforms**

The collaboration, co-teaching and feedback via peers offer the use of Microsoft Teams, padlet, google docs, zoom break out rooms, etc. Such experiences can make teachers ready to work with collaborative digital classrooms. They should work collaboratively on planning lessons with shared, online documents, do mock group collaborations with virtual breakout rooms and give asynchronous peer feedback on teaching demonstrations through use of annotation tools.

**D. Media Literacy and Digital Citizenship**

Teacher education should cover information about how to detect misinformation, the ethical conduct of digital citizens and instructing students about issues on privacy, cyber bullying and digital footprints. It includes examining the current affairs through the lens of media literacy, comprehending the possible impact of the data privacy in education and working out the approach to teach students how to behave safely and responsibly on the Web with due respect to one another and how to build and use communication without bullying.

**E. Integrating AI in Pedagogical Practice**

Training the potentially best users of AI, namely teachers to utilize the tools ethically and productively on operations focused on areas such as generation of personalized feedback, differentiating topics, grading of some of the assignments or recognition of learning patterns. It is not about dropping the teacher but endowing them with AI as a helping hand to increase

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efficiency and personalize learning. Additional ideas will be on the perceptions of ethical aspects of AI, bias and data privacy. The presence of institutional support is necessary to implement digital pedagogy in practicum practice, lesson planning, peer-teaching simulation and reflective practice journal. These are some of the things that have been provided to support their learning and they include provision of access to required software licenses, grants workshops on how to incorporate the use of digital tools in certain subjects and also ways to afford mentorship opportunities, with cases of effective digital pedagogy being modelled by experienced educators.

### **Blended Learning in Teacher Preparation**

Blended learning should not be seen as a delivery method but more as a radical pedagogical approach that personalizes learning, makes the most efficient use of the capabilities of both physical and digital spaces. Blended learning improves altogether in teacher education:

#### **A. Learner Engagement**

Increased participation with the help of flipped classrooms, gamified learning and discussion boards gives the learning process more of an interactive, student-oriented aspect. As an example, examples pre-service teachers may watch micro-lectures on pedagogical theories at home (flipped classroom) and then use them to complete practical group activities in the classroom at face-to-face lessons or work in gamified simulations of classroom management scenarios.

#### **B. Professional Flexibility**

By having access to course materials, recorded lectures and resources any time, it helps trainees develop time management and independent learning skills that are important in many aspects of life-long learning. This enables potential teachers to carry out their studies alongside other obligations and become familiar with self-directed learning, which is quite an essential skill that they will have to possess as professionals in their lives.

#### **C. Reflective Practice**

Student teachers are able to review computer-aided recording of their micro teaching in order to self-check and add improvements in delivery strategies. These records can be video-recordings with annotation tools where strengths and areas to develop can be marked and then feedback given on these areas to the mentors providing focused feedback in quicker and evolving improvement cycles.

#### **D. Differentiation and Inclusion**

Blended learning meets the changing needs and preferences of all learners, blended with multimedia, choices in assignments and adaptive learning systems. As a particular example, one may mention the provision of readings in different formats (text, audio, video), multiple courses of completing an assignment or adaptive assessment tools available which are adapted to a trainee and his or her current level of knowledge.

### **E. Building Professional Learning Networks (PLNs)**

Online is a blended environment that might be used to work on the development of online communities where the pre-service teachers will be able to connect with other pre-service teachers, teachers and educators with experience in the teaching field and subject matter experts outside of their direct institution. This might mean joining Twitter-based discussions, professional forums or sharing libraries of resources. Blended instructional design implies the need to train faculty in order to implement it effectively, make investments in the digital infrastructure and provide universal access to all learners. It also requires a good sense of where face-to-face is most valuable (e.g. when there is a complex discussion or practical work or building a relationship) and where digital bits can be most efficient and flexible.

### **EdTech Tools and Platforms for Pre-Service Teachers**

EdTech ecosystem presents a rich set of tools that may be used in teacher education to deliver the content, assess them, manage their classroom and collaborate professionally. Being exposed to these tools is important in developing confidence and fluency in future teachers on how to use digital technologies:

#### **A. Learning Management Systems (LMS)**

Asynchronous learning, file sharing, grading and tracking courses are supported in platforms such as Moodle, Google classroom and Canvas. They play a vital role whenever arranging online aspects of blended learning. Pre-service teachers are trained in how to organize and administer the content of courses, develop assessments and monitor student progress and make use of communication tools in an LMS, which preps such teachers on similar systems in K-12 schools.

#### **B. Assessment Tools**

Kahoot and Quizizz and Edpuzzle have interactive Education-related platforms with which teachers can create formative quizzes, interactive videos and real-time polls that add to assessment of learning. More than the simple quizzes, the teachers can be trained to use these as a means of diagnosis, exit tickets as well as of the peer assessment programs.

#### **C. Content Creation Tools**

Creation of visually rich presentation, infographics, interactive lessons and the ability to encourage lesson planning creativity can be performed through tools such as Powtoon, Nearpod, Book Creator and Canva. This digitalizes further by tools that are used in podcasting (e.g. Audacity), rudimentary animation (e.g Animaker) or even interactive simulations (e.g. PhET Interactive Simulations) in certain subject areas.

#### **D. Collaborative Tools**

Group projects, brainstorming and curriculum collaborative design applications such as Padlet, Trello, Miro and Google Workspace allow collaborative learning mentalities. They

could be used by the teachers to help them organize the student group work, handle the classroom projects or even and this is the case to be mentioned, the collaborative work with other teachers assisting with the interdisciplinary units.

### **E. AI-Based Tools**

Newer products such as ChatGPT brainstorms, Grammarly editing and Speech-to-Text apps, can be useful as productivity and personalization opportunities. Moreover, pre-service teachers need to discuss the opportunities of making special reading using the tool powered by AI when different reading levels can be created, to make individual learning plan or check writing of the students to see most common mistakes to give specific recommendation.

### **F. Virtual Reality (VR) and Augmented Reality (AR)**

Investigating VR/AR technologies which in turn may be used to establish the immersive experiences within the process of learning (e.g. real-life tours to museums and historical pieces, interactive anatomical models or virtualized lab experiments). It may not be the normal order of things in all classrooms currently, however, when pre-service teachers are exposed to such emerging technologies, they are ready to face the pedagogical potentials of the future. Where use of these tools is related to working in real educational settings, teacher training has to be conducted in suggestive workshops, simulation activities and integration exercises. This implies that pre-service teachers should shift the focus on theory to practice, where they should develop and demonstrate lessons using these tools in practicum placements where they are given positive or negative feedback on their strategies of integrating technology in learning activities and lessons.

### **Policy Perspectives and Institutional Initiatives**

Both national and international policy directions have focused on the critical nature of integration of technology in teacher education:

#### **A. NEP 2020 (India)**

Encourages technology to be applied in teacher education to accessibility, equity and quality. Examples of encouraging open access to digital teaching-learning resources are the DIKSHA and SWAYAM Initiatives. Another aspect high on Nep 2020 agenda is continuous professional development of the teachers in the digital pedagogy and creation of high quality digital contents.

#### **B. National Digital Educational Architecture (NDEAR)**

Incorporates the pursuit of interoperable, inclusive and scalable digital infrastructure to education. NDEAR will establish an effective digital public infrastructure through which diverse educational platforms and apps can be deployed and used with a free flow of data and resources across the education system.

**C. UNESCO ICT Competency Framework for Teachers**

Describes digital competencies on three levels, namely understanding ICT in education, integration of the curriculum and assessment and professional learning. The framework offers an international reference point of what teachers should know and do with technology fostering countries to come up with their own standards of competency based on the standards.

**D. OECD Education 2030 Framework**

Promotes future learning, which is flexible, data-driven and sustainable development goal-focused. Such a framework incorporates a strong argument that a learner should acquire what is known as transformative competencies where digital literacy and skills known as critical thinking and navigating through the maze of global complexities are incorporated and enabled by ensuring effective EdTech integration.

**E. National Education Technology Plan (NETP - USA, example)**

Numerous countries possess national plans that indicates goals and ways how to use technology in order to enhance education and suggestion to make it correspond to teacher preparation. Citing the analogous national policy or framework established in other well-developed educational systems can offer a larger scope of the picture and defining the world tendencies. These policy frameworks will provide models that teacher education establishments can utilize in order to redesign a curriculum, pedagogy or assessment, integrating it with the requirements of a digital society. They give institutions the momentum and, in many cases, funding mechanisms to invest in digital infrastructure, faculty professional development and curriculum transformation but institutional commitment and skilled leadership are what makes implementation initiatives succeed.

**Challenges in Implementation**

Though the vision of digital transformation in teacher education is strong, there are several challenges to accomplishing such vision:

**A. Digital Divide**

Dependency on devices, reliable internet and digital literacy has a disproportionate impact on even learners in remote and low-income regions and institutions. This also encompasses the skills gap in the digital divide in that despite access, one might not be in a position to use the digital resources in teaching and learning effectively due to lacking the required skills.

**B. Inadequate Infrastructure**

Most teacher education colleges do not have smart classrooms, EdTech and IT support personnel to support eLearning. This also goes down to the line of stable supply of power, bandwidth and old hardware services that pose serious obstacles to smooth integration by the use of technology.

**C. Faculty Readiness**

The unreadiness to utilize the available digital technologies, resistance to changes and the lack of professional growth prospects create limitations to the faculty potential to use innovative practices. Faculty members are sometimes very well versed in the subject matter but need specific training in pedagogical use of technologies, blended learning development and oversight of digital learning environments.

**D. Curriculum Rigidity**

Curriculum rigidity does not help to capture the developing technologies easily and they do not represent what is needed in the digital age. Revising the curriculum is slow and bureaucratic and therefore it is not easy to introduce emerging fast changing technological developments and new pedagogy before they become obsolete.

**E. Superficial Integration**

Using technology without a clear pedagogical purpose poses significant risks. When digital tools are adopted simply because they exist, rather than to achieve defined learning outcomes, their educational impact diminishes. Such a tool-centric approach often leads to ineffective teaching practices, wasted resources and growing skepticism about the true value of educational technology. Effective integration, therefore, must begin with sound pedagogy, not technology for its own sake.

**F. Cyber-security and Data Privacy Concerns**

As more is being shared on the digital grounds, issues of data safety, student confidentiality and ethical use of student information take frontstage. The curriculum of teacher preparation programs should empower the future teachers by providing data protection-related knowledge and understanding of governmental regulations such as GDPR and FERPA and their best practices concerning data protection and privacy of student information.

**G. Assessment of Digital Competencies**

It may be difficult to design sound and “real-world” procedures to evaluate the digital pedagogical skills of pre-service teachers. Conventional means of assessment might not be sufficient to provide the more nuanced programs of effective digital teaching, prompting the creation of portfolios, performance-based assessments and simulation. The solution to all these challenges will involve systematic change, concentrated investment and cooperative leadership. It requires a strategic economic development that addresses infrastructure, human capacity, pedagogical innovation and policy synergy at the same time.

**Conclusion**

The integration of digital pedagogy, blended learning and educational technologies (EdTech) is no longer an optional enhancement in teacher education it is an essential transformation for preparing educators to meet the dynamic demands of 21st-century

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classrooms. These approaches equip future teachers with the capacity to design engaging, flexible and inclusive learning experiences while nurturing lifelong learning attitudes. By merging pedagogical innovation with digital competence, teacher education programs can cultivate professionals who are adaptive, reflective and capable of leveraging technology to enhance learning outcomes. To achieve this vision, teacher education institutions must adopt a holistic and systemic approach that prioritizes both technological proficiency and pedagogical depth. Educators should not merely learn to use tools but must understand how to apply them meaningfully within diverse learning contexts. Institutional leadership plays a crucial role in fostering an ecosystem that supports experimentation, research-informed teaching and continuous professional growth. A policy-driven and research-based framework is vital to sustain this digital transformation. It requires consistent investment in infrastructure, ongoing digital skill development and the establishment of collaborative learning communities. Moreover, ethical and learner-centered use of technology must remain at the forefront to ensure inclusivity, accessibility and educational equity. Ultimately, the future of teacher preparation lies in building educators who are not only technologically confident but also pedagogically visionary and ethically grounded. Through strategic integration of digital pedagogy and EdTech, teacher education can become the driving force behind a digitally empowered, innovative and humanistic education system capable of transforming learning at scale.

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**A Continuous Professional Development for 21<sup>st</sup> Century Skills: Preparing Teachers for  
Critical Thinking, Creativity and Digital Literacy**

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**Abstract**

The education sector around the world is transforming in the era of globalization where the 21<sup>st</sup> century has introduced a knowledge economy, which entails a new set of skills required of both learners and teachers. Teachers do not see themselves as content transmitters; they serve as inquiry, innovator and inclusive facilitators. To perform this role, they should be enabled by powerful Continuous Professional Development (CPD) that develops competencies in critical thinking, creativity and digital literacy. In this chapter, the author examines the ways of how to conceptualize CPD programs restating them according to these 21<sup>st</sup> century critical skills. Developing on international frameworks, national policies (NEP 2020, NPST 2022 and NCF-SE 2023) and real life practice, the chapter summarizes the rationale, principles, models, tools and impact of teacher development versed in critical 21<sup>st</sup> century competencies. It highlights the necessity of such a systemic response, comprising policy alignment, institutional support and participation of the leadership that would allow meaningful change in teacher capacity, as well as classroom practice. The chapter plunges into the urgency of transforming CPD Paradigm in developing 3 cores 21<sup>st</sup> century skills in teachers- Critical thinking, creativity and digital literacy. Not only do they said skills make students ready to face the challenges that life has in store, they are also vital to ensure that the teachers are able to adjust to the changing pedagogies, use technology to their advantage and make the classroom environments more appealing and accommodating. Key national policies like National Education Policy (NEP) 2020, National Professional Standards for Teachers (NPST) 2022 and National Curriculum Framework for School Education (NCF-SE) 2023 and some of the international guidelines like the framework provided by UNESCO and Learning Compass of OECD are the reference of the chapter with which it bases the rationale of the integration of 21<sup>st</sup> century skills into the CPD.

**Keywords:** Continuous Professional Development (CPD), Teacher Education, Critical Thinking, Creativity in Teaching, Digital Literacy, Blended Learning, Teacher Competency Frameworks, Lifelong Learning

**Introduction**

The 21<sup>st</sup> century is changing rapidly with regards to the role of teachers. Teachers are no longer trapped by the provision of curriculum but directed to facilitate learning goals that ensure that the learner comes out as a critical citizen, a creative problem-solver and digitally competent citizen. But most traditional in-service training activities do not serve to provide

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teachers with the tools to carry out this paradigm shift. Continuous Professional Development (CPD) remains one of the bridges that may prepare the currently serving teachers towards this upcoming challenge. This chapter does not only put CPD in the perspective of upskilling, but of lifelong learning that is part of professional identity and performance in contemporary classrooms.

As the knowledge economy of the 21<sup>st</sup> century continues to evolve, education systems in various parts of the world are indeed going through rapid and multidimensional changes. All these developments have been influenced by technology, socio-economic developments, global connection and the increased need of life-long learning among the population. Consequently, the role of teachers has shifted out of the conventional one of content provider to the one of inquiry facilitators, innovation coach and promoter of inclusive and learner-centered practice. This reflects a complex environment and requires a broad, prospective view of Continuous Professional Development (CPD) in order to prepare educators to be successful in this new environment.

Through discussing a wide range of proven models, strategies of delivery (they can be both blended and digital) and implementation tools, the chapter explains how one can make CPD programs flexible, competition-based and locally responsive. Classroom teaching and its best practices in India and other countries are listed to show real-life applications of best practices along with measurable results. Also, the chapter points out the need to pay attention to systemic support systems such as institutional leadership and school-based professional learning communities, policy coherence, infrastructure and teacher motivation to guarantee the effectiveness of CPD activities.

In conclusion, the chapter suggests the transition of fragmented and compliant based training plans toward continuous reflective and needs-based professional development plans that enable teachers to be change agents in their learning environments and in the society. This will facilitate professional culture where the teachers conceptualize themselves as lifelong learners and will have the ability to be critical thinkers, creative problem-solvers and able to meaningfully integrate the digital tools in the pedagogical practices. This transformation is crucial to the comprehensive achievement of the aims of equitability, excellence and relevance of education in the 21<sup>st</sup> century.

### **The Need for 21<sup>st</sup> Century Skills in Education**

The 21<sup>st</sup> century has already introduced seismic shifts in our lifestyles including work, communication and the emerging trend of becoming knowledge based economy as a result of the kind of transformational changes provided by the current dynamics of technology development, globalization, automation etc. In this regard, education does not only need to transcend rote learning and passive learning, to become competencies necessary for survival in the fast-changing and complex world. Such skills are also named 21<sup>st</sup> century skills and include critical thinking, creativity, collaboration and communication, problem-solving and digital literacy. These are not merely additional components to conventional curricula but rather fundamental skills that learners need to master in order to make it through the thickets,

exploit available prospects and become valuable assets to the society. Under this regard, teachers therefore stand at the center-stage of ensuring that they nurture such competencies in students using the pedagogies that involve dynamic, inquiry and technology-enhanced learning.

Nevertheless, in order to be productive in these task teachers themselves also need to be provided with such competencies in terms of Continuous Professional Development (CPD). Since they are the designers of future-ready learning environments, it is essential that as educators, they are ready not only to become integrated into digitalization but also be in a position to demonstrate critical thinking and creativity in their teaching methods. This greatly justifies not only the desirability of 21st-century skills to be included in teacher training but makes it a necessity to accomplish the objectives of equity, excellence and innovation in global and national policies like NEP 2020, NCF-SE 2023 in education policies in India.

### ☞ **What Are 21<sup>st</sup> Century Skills?**

The 21st century skills have been explained as a wide range of knowledge, skills, work habits and personal attributes required by the learners and the professionals in order to succeed in a world characterized by globalization, digital and the fast change. These are more than academic skills and emphasize on acquisition of higher-order thinking, adaptability and capacity to learn throughout one lifespan. These competencies relate directly to the requirements of the Fourth Industrial Revolution and, quite aside, can be vital to employability as well as successful citizenship, innovation and self-development. From the classroom, these skills are to be developed by teachers who should be the major facilitators. The following is a list of the major 21<sup>st</sup> century skills which are the focus of the modern educational change and teacher growth initiatives:

### **Critical Thinking and Problem Solving**

Critical thinking comprises the conduct of analysis, evaluation, interpretation and synthesis of information in order to make reasoned decision or judgment. It helps people to look behind understanding, assumptions and critical issues. Critical thinking, in educational settings, helps to address inquiry-based learning, independent culture of thought as well as cultivation of intellectual rigor. To a teacher, the skill is necessary to develop learner-centric plans, conduct open discussions and even assess different views in a classroom environment. Finally, students actively engage into their learning process and are able to think and act logically by making informed decisions.

### **Creativity and Innovation**

Creativity is the capability of producing original thoughts, divergent thinking and being able to provide new perspectives to problems. The concept of innovation entails the use of these creative minds in terms of generating viable solutions that are practical and effective. Creativity within the field of education in the 21<sup>st</sup> century is no longer exclusively an attribute of arts subjects but is acknowledged as an element that promotes interest, motivation

and problem solving in a variety of disciplines. Creative expression, experimentation and risk taking should be encouraged by teachers in the classroom. CPD will make teachers understand how to establish open-ended learning environments with flexible logistics and or approaches so that the students feel empowered and at liberty to explore and innovate.

### **Digital Literacy**

Digital literacy is an expansive phenomenon, which entails acquiring flexibility to access, use, evaluate, create and communicate information with the help of digital tools. It does not only entail mere computer knowledge but also entails digital citizenship, data privacy, collaboration online, media literacy and ethics involving the use of technology. Teachers today have to be proficient in the use of educational technologies, as in the modern classrooms with the blend learning, the use of online platforms or flipped classroom, it becomes the standard. The developed confidence and competence among educators in exploring and adopting digital tools in the process of teaching will therefore have to be given a priority in the CPD endeavours.

### **Communication and Collaboration**

Listening attentively, speaking clearly and framing messages to suit different people and intentions are part of effective communication. Collaboration entails constructive cooperation with others such as other cultures and disciplines in an attempt to pursue a common purpose. They are very important interpersonal skills to both the students and the teachers in a connected and multicultural world. Not only is it necessary that teachers should model and impart these skills to the students but also that they should take part in interdisciplinary planning, co teaching models and collaborative professional learning communities. Activities that should therefore be encouraged in CPD programs include peer mentoring, team projects and reflective dialogue.

### **Self-Direction and Responsibility**

Self-direction addresses the ability to set goals, self-motivate, manage time and learn on their own and responsibility has to do with being ethical, responsible and being socially-emotionally aware. These qualities are essential in the realization of personal and professional growth that is linked to lifelong learning. Self-directed learning ensures that instructors are in a better position to embrace new ways of doing things, change and stay committed to on-going development. CPD should thus encourage teachers to undertake ownership of their learning journeys, evaluate their activities, establish a match between their set career objectives and new educational priorities.

These 21<sup>st</sup> century skills and incorporating them into education are not a pedagogy choice but a strategy. With classrooms becoming vibrant areas of collaboration, innovation and critical thinking, educators need these skills to tackle complexity and motivate the same amongst students. In the direct sense, CPD programs that have been deliberately constructed are instrumental in the cementing process of the aforementioned skills into the professional

identity of teachers so that they not only become participants to change but also leaders driving educational change.

### **☞ Why Teachers Need 21<sup>st</sup> Century Skills**

Teachers in the contemporary education environment are no longer required to act as vessels of knowledge. Rather, they are conceptualised as catalysts of learning, guides of exploration as well as role models as life-long learners. Consequently, it is impossible to implement the responsibility of ensuring proper preparation of student's learners with the 21<sup>st</sup> century skills without the expertise in this area on the part of teachers themselves. It is only when these key competencies critical thinking, creativity, digital literacy and others included by educators in school students will find their application in the same teachers and implementers of their abilities through their professional behaviours and pedagogical practices.

### **Modeling Behaviour and Skills**

The students not only learn under the guidance but also learn how their teachers think, work, solve problems and communicate. Such affects are achieved when a teacher uses innovative thinking and shows how to solve problems set in the classroom through creative thinking or when they talk about the skills of using digital tools with confidence, which indirectly influences the mindset and attitudes of students to these skills. On the other hand, when the teacher does not want to work with technology, he/she can weaken the character trait of inquiry or use the outdated practices strictly, which means that the student learns to resist the change and innovation. This makes it a necessity that the teachers practise what they preach, especially in thinking critically, being innovative, collaborative and digitally active.

### **Navigating Technology-Rich Learning Environments**

The modernization of educational procedures with the aid of the digitalizing and use of digital tools during and beyond the COVID-19 pandemic has altered the character of teaching and learning because it had to keep pace with online educational delivery. The classroom settings increasingly look like they are taking blended, virtualized and technology driven variations where none the less teachers are supposed not only to be acquainted with ICT tools, but to be able to incorporate them in their lesson plans effectively. Digital literacy enables teachers to create interactive curriculum, utilise international resources, make use of data to evaluate students, be able to communicate with students and parents. Lack of proper training in use of given digital tools and digital platforms could impose technological anxiety in the teachers and the bandwidth of teaching rich learning environment is hampered in this situation. Therefore, CPD in digital literacy is necessary on an on-going basis so that the teacher can keep up with the changes associated with technology innovations and feel at ease leading their students in a digitally mediated environment.

### **Fostering Learner Autonomy and Lifelong Learning**

One of the characteristic features of the education in the 21<sup>st</sup> century is the shift of the education towards the learner rather than to the teacher. Learners are supposed to assume more responsibility in relation to how they learn via exploration, probing, teamwork and evaluation of themselves. To facilitate this change, instructors must build relevant skills related to the development of autonomy, metacognitions and individualized learning. CPD programs supporting creativity and critical thinking help teachers create more open-ended tasks, promote project-based learning and even differentiate by learning styles. As soon as the role of an educator is changed into one of a co-learner and a facilitator, it no longer sees itself in the role of an all-powerful; it boosts confidence and curiosity in the students and makes them self-directed learners.

### **Enhancing Professional Identity and Confidence**

The feeling of increased identity, confidence and agency helps the teachers when they develop competencies in the 21<sup>st</sup> century skills. The ability to harness digital media, new forms of pedagogy and creative problem-solving techniques can enable the educators to take part in collaborative networks, curriculum design and classroom research and to develop leadership roles. In addition, the active character of the skills would promote the growth mindset ensuring that teachers are open to any criticism, reflection and lifelong learning. As the education domain is changing fast, the teachers that can evolve with the times have better chances to feel satisfied with their jobs and thrive as professionals.

### **Meeting Policy Expectations and Standards**

Recent education policies, including the National Professional Standards for Teachers (NPST) 2022, National Education Policy (NEP) 2020 and National Curriculum Framework for School Education (NCF-SE) 2023 clearly demand teacher training to be in-line with 21<sup>st</sup> century skills. These models require competency-based education, digital fluency, creativity, inclusion and problem-solving. It is assumed that teachers have to incorporate such principles in daily classroom practice. Thus, CPD which underlines vested policy goals becomes a must not only in the profession in terms of relevancy but also in satisfying institutional, national and international objectives of education.

### **☞ National Policy Alignment in India**

#### **National Education Policy (NEP) 2020**

The National Education Policy 2020 is a paradigm shift in the education system of India in the sense that it suggests the transformation of teacher education and in-service training. NEP 2020 aims to create an ecosystem that is renewed with experiential learning, competency-based learning and technology becoming the focus of the teaching as well as the development of the teacher. It accepts that educators form the backbone of the learning activity and focuses on their constant enrichment via frequent CPD options. It also specifies

that digital media (such as DIKSHA and SWAYAM) be used to conduct scalable and equitable training, in particularly remote and underserved areas.

Important recommendations of NEP 2020 are:

- At least 50 hours of CPD a year to all teachers.
- Focus on 21<sup>st</sup> century skills such as critical thinking, creativity, communication and being digitally fluent.
- The incorporation of pedagogical innovations, i.e. inquiry-based and experiential learning is considered.

### **National Professional Standards for Teachers (NPST) 2022**

The National Council for Teacher Education (NCTE) has devised NPST 2022 which establishes clear professional standards and career definitions of teachers. It point out that the concept of Continuous Professional Development is a necessitated rather than an optional process that involves a structure and is compulsory in the growth of the teacher as well as in accountability.

NPST bridges the gap between CPD and competency-based approaches so that teachers never stop learning in pursuing higher aspirations of knowledge, pedagogy and even the deployment of technology to address the changes in the classroom contexts. It gives a multi-level system of progression, allowing the growth in career and links it with teacher performance, making it possible to offer personalized pathways to CPD with regard to both the person and the teacher in their context and subject specialism.

The NPST highlights are:

- Established professional identity and norms at various levels of the career of teachers.
- Incorporation of the 21<sup>st</sup> -century skills of inquiry, collaboration, ethical practise and innovation.
- Continuous assessment by means of digital portfolio and self-reflection tools.

### **National Curriculum Framework for School Education (NCF-SE) 2023**

Devised by NCERT, the NCF-SE 2023 envisions a learner-centered aspiration of education since it makes teaching that has strong connection with inquiry, flexibility and relevance. It has a direct influence on the development of teachers, as the educators are forced to be student-centered, inclusive and pedagogically based on activities. The framework casts the teachers as co-producers of knowledge who need to have the abilities to differentiate the learning process and use digital tools efficiently.

Important aspects of NCF-SE 2023 in relation to teacher education:

- Heavy weight on experiential and competency based learning.
- Use of technology in provision of contents, evaluation and communication.

→ Instruct based on well-being, reflective practice and interdisciplinary practice.

All three policy documents indicate that there is a unified or coordinated national move towards professionalizing teaching by using rigorous skill-based and digitally enabled CPD.

### ☞ **Global Policy and Framework Alignment**

Educational reforms in India echo other global systems that share the same values in the focus on 21<sup>st</sup> century skills of teachers. These international attitudes confirm the notion that digital literacy, critical thinking, creativity and life-long learning are global skills that are needed in any education system.

### **UNESCO's ICT Competency Framework for Teachers (ICT-CFT)**

UNESCO ICT-CFT offers an international blueprint on teacher training in terms of incorporating information and communication technology (ICT). It characterizes six dimensions of teacher competency where attention is aimed at technology literacy, knowledge deepening and knowledge creation. The framework will guide the teachers to advance beyond ICT tool usage towards using the tools to implement deep learning, innovation and leadership in changes.

Key components include:

- The professional knowledge and the pedagogical practice involving digital tools.
- Building up of the learning environments collaboratively and student centered.
- The focus on the agency of the teacher and the teacher reflection in terms of ICT effective use.

### **OECD's Learning Compass 2030**

OECD Learning Compass 2030 framework helps to lead the education systems to the future-ready learning through the promotion of a system of transformative competencies those learners, consequently and their teachers must acquire. These include:

- The generation of new value (innovation and creativity)
- Indeed, reconciliation of tensions and dilemmas (critical thinking and problem-solving)
- Being responsible (self-direction and global citizenship)

This construct enhances the relevance of the CPD which not only conveys the knowledge, but develops the adaptive capacity, ethics and foresight of the educators. It advocates life-long teacher education as one of the basic dimensions of equipping children with the future challenges that they will come across in an uncertain world.

### **ISTE Standards for Educators**

These standards were developed by the International Society for Technology in Education (ISTE) and describe the skills and competencies of teachers to become full-fledged rights who will be able to become learning catalysts. Educator standards outlined by ISTE identify such roles as:

- Broker of new learning.
- Creator of real, learner centred tasks.
- Digital literate and responsible citizen.
- Informed instruction by analyst who utilizes the data.

Digital fluency, student agency and instructional design are the areas highlighted in these standards, which makes them of great importance to inform CPD content and delivery methods.

### ☞ **Reimagining CPD for Critical Thinking, Creativity and Digital Literacy**

Even traditional in-service training programs have tended to be administratively required in terms of delivery and content with little attention to higher-order competencies or innovative pedagogy. But, in the contemporary dynamic and technology-mediated education environment, CPD should be redesigned as the disruptive process to guide educators in internalizing, implementing and exemplifying the 21<sup>st</sup> century skills like critical thinking, creativity and digital literacy. These are not individual skills but highly integrated in the teaching, curriculum development and classroom communication processes. In this section, the authors discuss how CPD can be planned strategically so as to develop these fundamental skills in teachers and empower them to develop adaptive, inclusive and future-ready learning environments.

### **Critical Thinking**

Critical thinking refers to thinking in an analytical manner as well as coming up with sound reasoning decisions and the capacity to make independent decisions. It underpins the teaching-learning process of inquiry-based teaching and is fundamental to anyone teaching in curriculum structuring and instructional/assessment design.

In order to acquire this skill via CPD:

- **Case-Based Learning:** CPD can use real life scenarios or dilemmas that occur in classrooms where the teacher is expected to diagnose the causes, estimate the impact and recommend context sensitive as well as practical solutions. This practice will enable them to build diagnostic and decision-making skills that everyday teaching proposes.
- **Pro- Problem Posing Activities:** Incentives to use problems-posing activities will encourage teachers to think divergently by asking them to come up with problems and not to solve them. An example is that, during training one may request teachers to restructure material presented in the textbooks by packaging it as open-ended

questions that require students to question their assumptions and introduce a deeper form of inquiry.

- **Socratic Questioning:** During CPD workshops, trainers should present the method of questioning with guidance that involved modeling the questioning techniques of the trainers to demonstrate how to question student inquiries in terms of clarity, reasoning and evidence. This can be simulated by means of peer teaching sessions and by observation feedback.
- **Reflective Practice:** The teachers need to be directed to keep reflective notes, perform self-examination and to have shared discourses that encourage reflection on their instructional approach, classroom decisions and reaction of the learners.
- **Data Informed Decision-Making:** Teachers have to be trained in modules to analyse student data, interpret feedback and to evaluate educational resources in terms of validity and relevancy. In this way, teachers understand how to develop an effective instructional process by using currently available data to inform instructional decisions and not based on gut feeling.

### **Creativity**

Creativity as a concept is not associated only with the creative contributions of teachers but with the capacity to create new, interesting and pertinent learning experiences. An innovative teacher encourages students to dream, question and think beyond the borders, that is imperative to equip the learners to be positioned in the future driven by innovation. These are CPD methods to cultivate creativity:

- **Design Thinking Workshops** The teachers can be trained in the process of design thinking, putting them in the position to empathize with student needs, identify learning problems, ideate on the solutions, prototype out lesson plans and test innovations in the classrooms. This method fosters the iterative thinking and empathetic teaching.
- **Arts Integration Training:** CPD must have arts based strategies used across subjects. As an example, one may teach geometry with the help of moves or history with the help of drama to prompt cross-curriculum thinking and creation.
- **Project-based and inquiry-based learning:** teacher should also be prepared to either design thematic units or interdisciplinary projects in which students should apply real world problems with a thrust of being creative. The training should incorporate the provision of instructions on how to scaffold these tasks, handle the group dynamics and assessment of the creative products.
- **Promoting Risk-Taking and Learning to Fail:** Risk-taking also means to allow teachers to test new forms of teaching while the outcomes are unpredictable. Through CPD sessions, failure should be normalised as a part of the innovation journey through the use of tales of mishaps and make successful.

- **Creative Use of Technology:** Digital storytelling, video production, gamification and virtual simulations are some aspects of technology that the teachers should learn during their CPD that will enable them to develop creative digital learning environments.

### **Digital Literacy**

Digital literacy is more than learning to use the piece of equipment. It incorporates capacity to access, design and responsibly use digital contents; navigate information systems; and use technology to boost learning acquisition. In the era of distance education and digital interaction with students, cyber literacy is one of the layers of a teacher.

CPD approaches to developing digital literacy will include:

- **Learning Management Systems (LMS):** The teachers will need to train on how to create courses, uploaded the material, assign assignments and carry out discussions in the Learning Management systems such as Google Classroom, Moodle or DIKSHA.
- **Digital Content Creation:** CPD must involve practical skills on how to create electronic books, interactive slide and presentation programs, podcasts, infographics and videos using the user-friendly softwares like Canva, Powtoon or Screencast-O-Matic.
- **Online Security and Data privacy:** Efforts should be made to make teachers aware of the issue of cyberbullying, plagiarism, misinformation and ethical use of data. The safe digital practice should be included in the CPD modules, particularly during the process of managing student data or aiding learners over the internet.
- **EdTech tools and AI:** CPD should provide new EdTech tools, AI-based platform (e.g., ChatGPT, Khanmigo, ClassPoint) and supportive technologies to provide individualized learning and formative assessment and to support the needs of diverse learners.
- **Pedagogy:** Teachers are to be prepared to use both synchronous and asynchronous learning by blending them and flipping classrooms in the sense that, students first learn by interacting with materials online and then engage in deeper learning about that material or practice it during lessons. It involves a change of thinking and design capability in which CPD can foster.
- **Digital Assessment Literacy:** The process of comprehending the generation, administration and interpretation of digital quizzes, rubrics and analyses is of high preference to tech-enabled classrooms. It should also train to utilize digital platforms to give formative feedback in a timely manner.

### **☞ Models and Modes of Delivery**

The success of Continuous Professional Development (CPD) is not restricted to what is being taught, but it has to do with the way it is presented. The issue of the reconsideration

of the one-size-fits-all model seems absolutely vital in the reality of the 21st century when the needs of the staff and more specifically the teachers can be discussed as the individualistic, customised and practice-based learning experiences. Contemporary CPD needs to provide entry points, a variety of delivery forms and models that can meet changing teacher needs, circumstances and career plans. In this section, the outline between the key models and modes of CPD has been provided, which have been effective in shaping competencies of critical thinking, creativity and digital literacy.

### **Blended CPD**

Blended CPD takes the strengths of face-to-face interaction and gives them the flexibility of online learning. It gives teachers the opportunity to learn at their own pace, but learners also find it useful as it provides real-time discussion, feedback and mentoring. The hybrid models have achieved prominence today in the post-pandemic world, which makes this model particularly applicable.

Among them are:

- MOOCs (Massive Open Online Courses): There are opportunities to take such courses on platforms like SWAYAM, Coursera and DIKSHA that teach digital pedagogy, inventive methodologies and critical thinking tools. They are inexpensive or no-cost, flexible and nationally aligned.
- Short, interactive sessions hosted by professionals on the topical themes of interest such as AI in education, inquiry-based learning or inclusive digital practices via a Webinar or Virtual Conference. Teachers are able to take part in real time question and answers, polls and other case discussions.
- Mentorship and Coaching: Another thing that can be established online is that they have one-to-one or group mentorship whereby experienced educators guide the novice teachers. Digital portfolios, discussion boards and feedback loop are some of the most common elements incorporated into blended CPD to support the learning process.

Benefits:

- Warm up to learning at your own speed and time
- Warm up to affordable and achievable
- Encourages self-driven learning

### **School-Based CPD**

School based CPD makes professional development rooted in the reality of the everyday classroom practice. It cultivates the spirit of fraternization, mutual reflection and among colleagues in schools. It is not done within external workshops, but rather anchored in the school context and informed by current challenges of teachers.

The core practices are:

- Peer Observation: Teachers visit each other and observe each other lessons by using some structured tools and give them constructive feedback. This promotes thoughtful discussion, respect to each other and the ongoing work on improvement of teaching techniques.
- Joint Planning: Teachers plan in collaboration through development of interdisciplinary lessons, assignments and an assessments. This creates some creativity, shared ownership and increased alignment to curricular goals.
- Professional Learning Communities (PLCs): This is a regular school-based body of educators who come together in an attempt to cover student work, teaching or emerging educational research. The PLCs promote a persistent group inquisitive attitude and teacher improvement is a common enterprise.

**Benefits:**

- School – centered learning
- Creates supportive systems in schools
- Build long-term health growth

**Modular and Micro-Credentialed CPD**

The increasing pressure on flexible, personalised and outcome based CPD education has given way to emerging modular and micro-credentialing models which enable teachers to develop certain specific competencies quickly and combine them towards qualifications at greater levels.

The key elements are:

- Short, Competency-Based Modules: These are independent skills related areas like the design of Critical Thinking Assignments, Creating a Creative Group Project or working with AI to conduct Formative Assessment. They tend to be practice-orientated and relational, project-based and connected to practical teaching jobs.
- Stackable Credentials: Teachers can amass several micro-credentials to achieve formal certification or a credit-based path of advancement with the concept referred to as a 'i overall youth And built under the framework of such credentials within a country, such as the National Credit Framework (NCrF) in The United Kingdom.
- Digital Badges and Portfolios: Teachers can be issued badges or certificates on their completion, which can be incorporated into digital portfolios or professional resumes because they can be recognized by hiring institutions and overseas employers.

**Benefits:**

- Time-instant, very focussed learning
- Offers you options and allows personalization of things
- Promotes life-long learning and continuing professional development

### **Action Research and Reflective Practice**

CPD should extend beyond training and consider embedding teachers into a systematic investigation of their practice to support their teacher agency and innovation. It is here that action research and reflective practice makes a difference.

The most important strategies are:

- Classroom-Based Inquiry: The teachers schedule a problem or query (e.g., How to teach so that the students are more engaged in the digital classes?), experiment with the strategies, gather inventions and examine results. The latter helps to enhance greater understanding and evidence-informed decision-making.
- Reflective Journals: These are records made by teachers that cover their experiences in the classroom, what they see and observe, the problems they face and the way they adapt to them. This becomes a means of developing a professional dialogue and professional learning when shared in PLCs or mentoring groups.
- Case Study Documentation: Case studies will be presented by teachers where their classroom experimentations are described as mini case studies. These may be presented in newsletters, scholarly journals or CPD highlights and in this way, give voice to teachers and innovations.

Benefits:

- Encourages real possession and autonomy in the work environment
- Causes you to learn regarding problem solving and research.
- Fills the gap between the theory in teacher training and practice

### **Conclusion**

The world of education of the 21<sup>st</sup> century is changing faster than ever before, due to the innovation cycles, globalization and the variable demands of the working population. That is why, in that dynamic context, the role of teachers has changed and reduced to mere transmitters of knowledge to the role of inquirers, innovation and inclusive learning. Such change as this requires a comparable shift in the way that teachers are developed, resourced and enabled over the course of their careers. At the core of this change will be a re-conceived practice of Continuous Professional Development (CPD) - a continuously relevant, competency-informed and context-specific approach based practice. It is more important to prepare teachers into the future of education and distant workshops or trainings which are content-centric do not address this need. It requires a strategic, holistic and sustained process of CPD which can develop required 21<sup>st</sup> -century skills like critical thinking, creativity and digital literacy. These are not an optional adjunct but underlying abilities that help educators to succeed in complex classrooms, plan instruction centered on learners and adjust to new and emerging technological advances. In their absence, almost any teacher will be at a loss when it comes to managing to connect to students orienting in the environment of the blended learning or achieving better learning results.

Notably, it is required that change happens not only in the content of CPD, but also in its design and delivery. New models- the models of blended learning, modular micro-credentials and school based communities of practice and action research- provide a variety of professional development paths specific to the real world contexts of individual teachers. These include the realization that teacher learning, similar to the learning of students, is effective when it is personalised, practice-based and reflective.

Ostensibly just as important is the support of policies, leadership and institutions. The national frameworks such as NEP 2020, NPST 2022 and NCF-SE 2023 offer powerful basis but it needs the school leaders, teacher educators and system level planners to establish facilitating conditions of professional learning through time, digital infrastructure, mentoring support and rewarding procedures to extend improvement.

The teachers themselves, in turn, should not approach CPD as a compulsory measure with claims on regulatory backgrounds and embrace it as a professional duty and a personal choice. It is necessary to make a mind-set change towards the students and how they view themselves; they have to become active participants and co-authors of learning. Teachers must see themselves as reflective practitioners, change agents in the communities and lifelong learners.

Finally, it is possible only to conclude that future-ready education starts with future-ready teachers. Becoming career-ready in terms of critical thinking, creativity and digital literacy is not just a matter of luxury but revealed that this is what will create resilient, inclusive and forward-looking education systems. With a new vision, nimbleness and focus, CPD can change the status quo rather than being an add-on and, instead, become a game changer that enables educators to address the current opportunities and challenges as well as to influence how tomorrow looks.

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**Policy Reform and Continuous Professional Development in the Context of the National Professional Standards for Teachers 2022 and Their Implications for Teacher Training**

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**Abstract**

The introduction of the National Professional Standards for Teachers (NPST) 2022 by the National Council for Teacher Education (NCTE) under the visionary framework of the National Education Policy (NEP) 2020 marks a transformative step in reimagining teacher professionalism in India. NPST 2022 provides a unified, competency-based framework designed to standardize expectations for teacher quality, performance and professional ethics across all stages of a teacher's career from novice educators to accomplished teacher leaders. By defining the core areas of professional knowledge, pedagogical practice and values, NPST establishes measurable benchmarks that integrate teacher effectiveness, learner outcomes and institutional accountability into a cohesive and dynamic ecosystem. This chapter critically analyses the policy rationale, design architecture and strategic vision of NPST 2022 while exploring its implications for both pre-service teacher education and in-service continuous professional development (CPD). It synthesizes policy documents, stakeholder consultations and pilot project findings to assess how NPST can operationalize quality assurance, support teacher autonomy and foster a culture of lifelong learning and reflective practice. The study situates NPST within the global discourse on teacher standards, comparing its framework to international models such as those implemented in Australia, the United Kingdom and Singapore, emphasizing its localized relevance to India's educational diversity. The chapter discusses systemic challenges related to institutional readiness, infrastructure and capacity-building that influence the successful implementation of NPST. It highlights the need for robust mentoring systems, performance-linked professional progression and the integration of digital learning platforms to sustain teacher engagement and skill renewal. The NPST-driven CPD approach, if effectively implemented, has the potential to transform teacher education institutions into dynamic hubs of innovation, reflective inquiry and evidence-based professional learning. NPST 2022 is not merely a regulatory framework but a developmental and transformative policy instrument that seeks to elevate the status of teaching as a lifelong professional journey. Its successful realization requires synergy among policymakers, teacher education institutions, school systems and teachers themselves to embed professional excellence and accountability into the heart of Indian education.

**Keywords:** National Professional Standards for Teachers (NPST), Continuous Professional Development (CPD), Teacher Education, National Education Policy 2020, Competency-Based Framework, Teacher Career Progression

## **Introduction**

The National Professional Conduct and standards of Teachers (NPST) which commenced officially in the year 2023 is a radical policy intervention in the National Education Policy (NEP) 2020 hence addressing the mandate of Paragraph 5.20. It is one of the first steps to institutionalize teaching profession in India in terms of laying out the competency based framework that will provide expectations about teachers who are in progress of various stages of career. Through the National Council for Teacher Education (NCTE) aegis that currently serves as the intended Professional Standard Setting Body (PSSB), the NPST spells out a comprehensive vision of teacher quality that resonates with the objectives of equity, excellence and learner-centric pedagogy in 21<sup>st</sup> century learning.

NPST does not only envisage the teacher as a deliverer of contents, but rather as a facilitator, innovator, lifelong learner and a community leader. It gives an elaborate roadmap of what is already known and entailed in the knowledge and skill aspects as well as attitude, values and professional teacher conduct that ought to occur at four consecutive career levels:

- Pre-Service (and Induction Stage) Beginning Teacher
- Expert Teacher
- Highly qualified Teacher
- Lead Teacher or Teacher Leader

The NPST aims to transform the teaching profession into one that is respectable and desirable through the creation of an obvious career development path into becoming a professional teacher, a relentless evaluation and competency-based promotion. This standards-based system, by “bringing harmony and regularity in the pre-service teacher preparation, in-service human capacity improvement and career advancement processes in the various education systems in India, both the private and the government-owned, rural and urban regions.

One of the major points of concern in this chapter is to examine critically the implication of NPST in the development of Continuous Professional Development (CPD). In contrast with previous episodic approaches to teacher training, NPST envisages CPD as being a coherent and holistic life-long professional development, which is directly connected with career level stages, school requirements and student attainments. It offers advice to institutions of Teacher Education (TEIs), School Leadership and State Education Departments to draft and develop contextually relevant, learner-centred and performance based CPD pathways.

Subsequently, the chapter discusses the policy development process of NPST, such as its consultative process with the practitioners, experts and the stakeholders; the thematic and the structure; and the propositions of implementation, monitoring and accountability. It also puts a great focus on the real life implications of NPST on:

- Curriculum design and control in TEIs;
- Recruitment and promotion norms at the state levels of the teachers;

- school performance evaluation and feedback;
- Blending or incorporating digital learning resources and platforms (such as DIKSHA) to train teachers;
- And with national missions like NIPUN Bharat, Samagra Shiksha and Vidya Pravesh, which are broader.

By so doing, this chapter has placed NPST not only as a regulation model but as a visionary reform that is capable of solving challenges that have existed in teaching quality, motivation and accountability which eventually leads to better student learning outcomes and systemic changes in the educational system.

### **Policy Background and Formulation Process**

The origination of the National Professional Standards for Teachers (NPST) is based on a strong requirement to recreate and professionalize the scope of teaching in the newly developing Indian educational sphere. Indian teacher education has in the past been fragmented, inconsistently well prepared and not well matched between pre-service training and actual practice. It is aware that these systemic gaps are considerable and thus, the National Education Policy (NEP) 2020 specifically stated that it would establish NPST in order to establish clear guidelines regarding teacher competence at each learning stage of the profession (Para 5.20). The long-range policy reflects the future to be of teachers being empowered, accountable and undergoing the process of constant change based on a professional development. NPST is therefore a landmark in the changes in policy -that is divorcement between the input-based qualification requirement and the competency based continuum of a profession-teacher education, career development and achievement in the classroom, placed in relationship with countrywide standards.

Through NEP 2020, the National Council for Teacher Education (NCTE) was made the Professional Standard Setting Body (PSSB) and subsequently the leader in the development of NPST. The consultation and formulation process was consultative and inclusive in that it involved massive consultation with stakeholders, such as teacher educators, practitioners in schools, academic experts, representatives of state level and international advisors. It developed drafting committees by creating regional representation and diversities that would include the representation of educational situations in the regions, rural, urban, tribal and aspirational districts. It is important that several rounds of deliberations have been carried out, community consultations and experimental research feedback have contributed to the development of the draft NPST document. The procedure also involved best practices extending into international examples (Australia's AITSL standards and Singapore's teaching frameworks) and existing within the Indian socio-cultural and linguistic diversity. Because of that, NPST is a differentiated and locally and conceptually placed policy framework intending to trigger systemic change in teacher growth by means of uniform, quantifiable, inspirational standards.

### **NPST Emergence under NEP 2020**

The National Education Policy (NEP) 2020 considers teachers as the catalysts of education reforms, by making them the focus of learning as a preserver. Given the importance of educators in the attainment of the goals of equity, quality and lifelong learning targeted by the policy, NEP 2020 directs a holistic National Professional Standards for Teachers (NPST) to be developed by 2022. In this directive, as captured in Paragraph 5.20, it is acknowledged that there is a dire need to come up with clearly defined expectations regarding teacher competencies, behaviours and values at different career stages. The policy criticizes the current tenure based and qualification-driven promotion mechanisms and, in lieu thereof, offers performance and competency-driven progression framework that foster excellence, learning and accountability.

The creation of NPST is the answer to this call, in that it has a structure of the professional continuum in pre-service and advanced leadership. It entails a system whereby the career advancement is no longer based on years of service or seniority and pays emphasis on the professional expertise, dedication to student learning, involvement with CPD and reflective practice. Moreover, digital fluency and inclusive pedagogy are also implemented as crucial peculiarities of modern teaching by NPST because of the needs imposed by the 21st century in classrooms. In doing so, it can relate to larger missions in the country like Digital India, NIPUN Bharat and School Quality Assessment and Accreditation (SQAA). That is why NPST is not a one-off reform but a structural pillar at NEP 2020 transformative vision of education in India.

### **Participatory Development Approach**

There was a very decentralized and participatory process of formulating NPST carried out through the National Council for Teacher Education (NCTE) as the Professional Standard Setting Body (PSSB). The work evolved over 2021-2023 with a large scope of bottom-up digital consultations, multileveled workshops and pilot validation studies. The stakeholders who were engaged in more than 1,000 directly include practising teachers, teacher educators, subject matter experts, education researchers and state-level policymakers. It was a collaborative model that made the NPST representative of the ground realities, classrooms and contextual needs of the Indian learning and education infrastructure which is an amalgamation of cities, districts and tribal and rural areas.

These were arranged in a form of regional consultations and thematic seminars at all regions of India to collect inputs of various kinds on professional expectations, localized pedagogical practices and challenges faced by educators. At the same time, pilot studies and field tests have been carried out in some States to determine the effectiveness and the application of standards emerging to the context. Digital platforms and feedback tools also assisted the process because practitioners could see draft versions and give their improvements. Iteration of drafting meant that the NCTE was able to include real-time revisions in the modular structure of the NPST making it clear, flexible and adaptable. This participatory formulation process created alongside the credibility and acceptance of NPST

went a long way to create a base in ownership, relevance and implement ability by all stake holders in the teaching occupation.

### **Structure and Key Domains of NPST**

The National Professional Standard of Teachers (NPST) has a well-developed and systematized structure which provides the main spheres of competence of teachers with regard to different stages of a teaching career. The standards are outlined in such a way that they enable the teacher growth through entry-level induction up to senior positions in leadership roles and proving a clear and competency-based career ladder in the field of professional development. The NPST structure does not incorporate a one size fits all pattern, but rather addresses the disadvantages of adaptability to context and the relevancy of career stage and expected outperformance based on role.

The NPST is formulated on four fundamental domains, which may include a wide group of competency areas, proficiency indicators and reflective practices. The domains can act as anchors to Continuous Professional Development (CPD) design and requirements, teacher appraisal systems and protocols of further promotion and recognition. The following are the major areas:

#### **→ Professional Knowledge and Ethics**

This realm relates to the basics of knowledge that teachers are required to have such as the ability in subject-matter, comprehension of the developmental process of learners and observance to moral and inclusive practice. It emphasises the rationality of professional values, admiration of diversity, integrity and the insistence on child centred, right based educational philosophies. The teachers will have to exhibit cultural awareness, familiarity with law (e.g., RTE Act, POCSO Act) and professional boundaries when working with parents and communities.

#### **→ Curriculum and Pedagogical Practices**

This area is centered on the capacity of the teacher to plan, modify and carry out efficient teaching objectives that are in line with the curricular objectives. It embraces learner-centered approach, practical learning and local context and digital adoption into the learning action. The following competencies add lesson planning and differentiated instruction, inclusive classroom management and the capability to encourage critical thinking, creativity and collaboration. Much importance is given to multilingualism, basic literacy and numeracy and 21 st century skills.

#### **→ Assessment and Evidence-Based Practices**

The ability to design and administer formative and summative assessment, interpret data to plan instruction and use assessment results to enhance student learning is expected of teachers. This is the area where the functions of data-driven decision-making, application of

learning analytics and preserving student portfolios and records are focused. Educators should also be in a position to give constructive recommendations as well as being able to determine gaps in learning and providing remedial measures that must make the learning process equitable among all learners.

→ **Leadership, Mentorship and Professional Learning**

In addition to teaching in the classrooms, the teachers are also expected to perform the role as mentors, curriculum leaders and agents of school reform. This area entails the peer mentoring competencies, academic leadership, working with stakeholders, school improvement planning and helping in a professional learning community. It also fosters personal reflection, lifelong learning and the acquisition of competencies in digital learning, asking teachers to ensure that they have a living professional portfolio in reach of their CPD aspirations. All domains contain stage-based proficiency indicators which are mapped against three progressive career stages in the teaching profession:

- Pre-service and Induction Phase Teachers (Early-Careers)
- Proficient and Experienced Teachers (Mid-Career Teachers)
- Mentors, Head Teachers, Academic Coordinators (Teacher Leaders)

These indicators will make sure that the teachers evolve in a gradual manner basing on former learning and experience. The standards are flexible and can be applied in heterogeneous school settings (public /private, rural/urban) and to diverse state specific education systems. Notably, NPST does not concern itself with measuring outcomes on the basis of tenure but switches the target to observed teaching processes, learning outcomes, teamwork and reflective interaction with CPD.

The structured domains of NPST, in effect, have come up with a common lingo of professional expectations, which can help in the reconciliation of teacher education institutions, school systems, training providers and regulation agencies. They not only could help to specify what teachers ought to know and be able to do, but also how they need to constantly evolve, adjust and lead in the fast-paced world of the educational industry.

**Implications for CPD and Teacher Training**

The National Professional Standards for Teachers (NPST) are playing a major role in transforming the Continuous Professional Development (CPD) by ensuring that it can be illustrated as an on-going, structured and being at a certain stage in the career. NPST is unlike the previously used sporadic or one-off training frameworks in that it requires the CPD to align to the set of competencies needed in various levels of the teaching profession-intermediate to leadership. Such a shift of input to output professional learning makes training not only relevant to the real classroom situation but also has significant value to the professional development of the teachers and to the achievement of students. In addition, NPST also asks teacher training programs to incorporate self-reflection, peer feedback, digital pedagogy, inclusive practice and school-based interventions as inseparable parts of

CPD. Such developments add strength to the belief that learning in this professional should be uninterrupted, localized and, related to changes and challenges of education in different and dynamic Indian environment.

In the case of Teacher Education Institutes (TEIs), NPST is new endeavor concerning further stipulated upon heightening accountability and coherency and innovation amid the pre-service and in-service preparation of teachers. Curriculum in B.Ed. and Integrated Teacher Education Programmes (ITEP) has since the revised requirements in NPST in 2011 needed to design curriculum that is more in line with the four components of NPST, namely, professional ethics, pedagogy, assessment and leadership and also ensure that the graduates are prepared to conceptualise portfolios mapping their growth through the NPST career spectrum. Also in service training providers and SCERTs are also on the way to develop modular, flexible and needs-based CPD program so that it enables teachers to up skills depending on their performance shortfalls and desires. With the assistance of such platforms as DIKSHA and NISHTHA, these modules make it possible to utilize blended learning and extensible professional learning communities. Finally, NPST repurposes CPD as a systemic (rather than compliance-based) process of evidence-informed teacher quality improvement and educational reform maintenance.

#### ☞ **Pre-Service Teacher Education**

- NPST requires that professional standards be incorporated into pre-service B.Ed. and braided degree programs by 2030; pedagogical and subject-specific knowledge are coupled with competency requirements
- The existing B.Ed. programmes are old fashioned and lack coordination with classroom realities and thus without a restructuring, its effective implementation is not yet possible [reddit.com+1timesofindia.indiatimes.com](https://www.reddit.com/+1timesofindia.indiatimes.com).

#### ☞ **In-Service CPD Strategies**

- CPD programs should be similar to modules based on skills and suitable at all stages of a career rather than a single workshop.
- Mentorship and peer coaching may also be introduced to the school system in order to promote the growth of teachers in accordance with the NPST performance rating techniques.

#### ☞ **Teacher Career Progression**

Under NPST, promotions, pay raises and certifications will be based on performance and proved competence as opposed to longevity. This makes merit advancement institutional through implemented growth evidence.

#### **Challenges and Considerations**

Although National Professional Standards for Teachers (NPST) signify a step forward in the Indian issue of teacher quality and teacher accountability, practical concerns involving

several systemic and operational barriers pose a challenge towards successful implementation of the same. A significant point of concern is that states and educational establishments have different capacities in respect to harmonizing prevailing structures in recruiting teachers, training and appraising them with what NPST entails, that is, a competency-based model. Infrastructural shortages, high pupil-teacher ratio and the inability to access digital platforms in many regions, (especially in low income and rural districts) are some of the contributing factors that may make it difficult for teachers to make a meaningful connection with continuous professional development (CPD). Also, some educators are concerned that performance-based standards might unintentionally create additional pressure, monitoring or red tape, particularly when combined with lack of enabling environments and mentoring systems.

The other important point is the aspect of standardization that is not uniformity but the creation of a national structure that can be contextualized across linguistic, cultural and pedagogical terrains. The effectiveness of NPST is largely connected to compliance of its provisions, the strength of monitoring measures and availability of people qualified to oversee CPD implemented at state, district and school level. It is also important to develop digital and pedagogical capacity among teacher educators and school leaders who would be instrumental in the cascading of the standards. Moreover, it will be necessary to integrate the culture of reflective practice and professional independence by changing the attitude towards training as I am often told that training is imposed as some sort of obedience rather than coaxed as independent development. These challenges cannot be resolved without the coordination of supporting policies, long-term investment, cross-institutional cooperation and a desire to be inclusive and embrace a teacher voice throughout the realization of this reform.

Contextual Relevance Being Close to the Ground NPST is a national norm, but it may make teachers more dependent and uniformity more significant than local consistencies on how to teach. Obviously, generic indicators cannot serve well in other geographic locations or subject areas unless they become more precise and detailed on TeacherPlusncte.gov.in. Capacity and Infrastructure Shortages Offline Teachers who are already in the profession and in particular rural teachers, lack access to the internet and rudimentary digital skills to engage in online CPD that aligns to NPST. There is also a possibility that B.Ed. schools and DIETs require the enhancement of their skills to make available training that are in accordance with NPST. Motivation and Professional Buy-In: Studies indicate a combination of time interval or over period of time, collaborative work, reflective and needs-based CPD as most effective. NPST aligned CPD ought to be one that does not compel teachers to do things top-down. Rather than this, it ought to convince instructors to direct their own career development.

## **Conclusion**

The National Professional standards of teachers (NPST) 2022, is an epitome of reform in the education scenario of India that will act symbolically as a decisive step towards the professionalization, regulation and elevation of teaching profession. The redefinition of teacher effectiveness in light of competency-based framework allows NPST to change the

point of emphasis on teaching qualifications and seniority to a performance-based, dynamic professional development. Such a framework recognizes the complexities of teaching as a lifelong learning experience and incorporates expectations on the basis of career stages into systems of recruitment, training, evaluation and promotion. When done with consideration, NPST will act as a mighty tool in enhancing teacher efficacy, practice in the classroom, learner engagement and consequently, student performance in the nation.

Successful implementation of NPST is, however, not only due to its design but also to its implementation fidelity. To become systemic and a part of Continuous Professional Development (CPD) and the pre-service teacher education a systemic change of policy is possible which will also change practice. The reform should be championed by stakeholders; that is, policymakers, Teacher Education Institutions (TEIs), the leaders themselves and school teachers. This incorporates clarity in standards, situation specificity of the various school realities, capacity building and topping it all the participation of the teachers in the development and ownership of the standards. Integrating NPST into everyday professional practice would be to further create the ecosystem in which reflecting practice, mentoring, learning with peers and professional autonomy does not occur but are instilled as an institutional value. NPS is one such transformative instrument as India dreams to achieve the NEP 2020 goals, which holds a potential of transforming the career of all educators and open the door to viability in Indian school education: Quality, Equity and Excellence.

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**Towards Excellence in Standards Accountability and Quality in Teacher Education under  
National Education Policy 2020**

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**Abstract**

This is the case with the chapter titled Towards Excellence: Standards, Accountability and Quality in Teacher Education under NEP 2020 that examines the developments in teacher education in India in the context of the National Education Policy (NEP) 2020. It has been emphasized that the presence of high standards, high accountability and high quality are all necessary in attaining a teaching staff capable of working effectively anywhere in the world. Emphasis has been laid on transforming the demands about training teachers, establishing procedures of accreditation and performance appraisal, facilitating flows of teachers to continue learning and institutional governance improvement. Individuals have viewed the objective of the NEP 2020 on dynamic, flexible and even innovative teaching as a solution to the unification of standards, accountability and quality improvement in the training of teachers in their programs. The emphasis has been made on the need to shift our attention to an outcome-oriented focus as opposed to input-based models of learning where the greatest emphasis is put on effects that can be observed on learner success, classroom and end-of-life learning ability. Much research has been done on the collaborations of regulatory bodies such as the National Council for Teacher Education (NCTE) and National Council of Educational Research and Training (NCERT), teacher education institutes (TEIs) and various groups of individuals. It has been clarified that it is critical to monitor things, make stakeholders responsible and set quality standards using peer review, certification audits and online channels when using data. Discussions were also being made regarding the place of National Curriculum Framework for Teacher Education (NCF-TE) and National Credit Framework (NCrF), in the national and state level quality assurance system. The chapter provides recommendations to TEIs as well as to the policymakers and governmental institutions to implement the aim of excellence in teacher education by concentrating on the ideas of a theoretical and policy practice in contrast to the case studies. On the directions of NEP 2020, it has been proposed that instead of certification on the grounds of compliance, there shall be a shift towards continuous quality improvement. The objective of the chapter is the contribution to the ongoing discourse on transforming TEIs into higher-educational institutes that are responsive, reflective and accountable institutes and capable of assisting India in achieving its educational objectives.

**Keywords:** NEP 2020, Teacher Education Standards, Accountability Mechanisms, Quality Assurance, NCrF Integration, Institutional Governance

## **Introduction**

National Education Policy (NEP) 2020 can be defined as a breakthrough in the history of changing India and its education system, especially, teacher education. The policy also acknowledges the role of teachers as the cornerstone of quality education and, therefore, the policy elevates teacher preparation as multidisciplinary, rigorous and standards-based process rather than traditional credentialing approach and shifts the model towards a lifelong professional development. The change is philosophic and structural and systemic change is required with respect to the recruitment, development and support of teachers as well as their evaluation.

Teacher education in India has generally faced a lot of criticism in the past owing to its disintegrated framework, lack of realistic exposure, poor regulatory mechanism and unequal quality levels of institutions. These historical issues find a reply in the NEP 2020 due to its comprehensive and sophisticated model that ensures attention to excellence, equity and relevance in teacher education. It promotes a four year Integrated Teacher Education Programme (ITEP), better national alignment, accountability systems and strengthening of Teacher Education Institutions (TEIs) which are in charge of teaching.

Standards, accountability and quality are the three interdependent concepts that are at the core of this change process. Collectively, these ingredients are conceptualized as the means of establishing a coherent, transparent and effective teacher education system. Teacher competencies, content of the curriculum and the performance of institutions are set clear benchmark through standards. Accountability means that the stakeholders (Building Sequence Experience in Institutions: TEIs, regulatory bodies, faculties and teacher trainees) would comply with such standards through an organized system of assessment, adaptation and response. The final outcome of what is needed in the academic inputs and even in pedagogical practice and professional ethics and student learning outcomes is quality.

A critical reflection examines the convergence and strengthening of these three pillars, namely standards, accountability and quality, in the scope of the vision of NEP 2020 on teacher education. It also talks about the role of different institutions/ actors such as the National Council of Teacher Education (NCTE), the University Grants Commission (UGC), the School Boards, the State Committee of Educational Research and Training (SCERTs) and the TEIs themselves. It further examines the ways in which there is already a process underway in which frameworks like the National Professional Standards for Teachers (NPST) and National Curriculum Framework for Teacher Education (NCFTE) may be so designed as to be operationalized with reference to the NEP recommendations.

Finally, the chapter seeks to offer a roadmap to institutional excellence by giving postulates on how India can come up with a future ready, inclusive and globally benchmarked teacher education system. It is inevitable to have reforms in the curricula through integration of digital world, capacity building or shareholders accountability in which excellence will start with alignment combined deliberation of standards, mechanisms of accountability and mutual sense of quality.

### **Defining Standards in Teacher Education**

National Education Policy (NEP) 2020 is operationalised to see such paradigm shift in teacher education, which goes beyond inputs and formal degrees but focuses on demonstrable competencies, professional dispositions and practical readiness. In this vision, standards are seen as the blueprint that should serve as the basis to change the form and content of teacher education programs within India. They specify what teacher educators and teacher candidates should know, be able to do and appreciate in all preparation enterprises and professional paths.

### **The Multi-Dimensional Nature of Standards**

The standards on NEP 2020 are multidimensional on teacher education. Such standards not only cover curriculum aims but the behavioural, ethical and professional needs of all stakeholders involved such as the teacher candidates, the faculty members and the institutional leaders. These criteria are the standards of quality and performance as well as progress. Overall, the utmost consideration is given to the following areas:

#### **☞ Professional Knowledge and Practice**

This field lays great significance on good academic background on areas such as child development, theories of learning and understanding of pedagogical content. Teachers ought to:

- Understand the various ways that kids develop at various levels.
- Employ appropriate teaching strategies with regard to the kid, condition and the topic.

Demonstrate that you understand how to construct a curriculum, plan lessons and instruct in a manner that attracts the needs of various students. It is due to this that teacher education programs must ensure that their curricula demonstrate not only theory, but also provides the participant with a practical experience in the teaching process such as in the way of workshops, demonstrations and fieldwork.

#### **☞ Ethical Dispositions and Values**

NEP 2020 clarifies social responsibilities, constitutional ideals and ethical means of teaching that the teachers should uphold. The following are standards in this area:

- Being respectful of diversity and inclusion particularly of those who are usually excluded.
- Promoting gender sensitivity, environmental and civic responsibility.

Maintaining values of honesty, empathy and willingness to learn new things as values of the profession. The teacher preparation program should include value education, critical dialogue and community based field work in order to produce emotionally intelligent and socially conscious individuals as future teachers.

#### **☞ Technological Fluency and Digital Pedagogy**

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The pandemic accelerated the digital revolution of teaching, which entails that teachers of the 21st century should be computer literate to the maximum. Under NEP 2020, one of the expectations of teacher education programs is to: - Provide ICT tools, learning management systems (LMS) and education applications as part of the course. Incentivize applicants to design, develop and deliver lessons that avail tech-enabled lessons, develop e-content and utilize digitalized technologies in assessing pupils.

Educate the public on staying safe online and digital character as well as data literacy. That is, TEIs should transform the manner of delivering their programs, invest in digital infrastructure and ensure that teacher educators and trainees can utilize technology to plan their lessons in a respectable manner.

### **☞ Reflective and Research Orientation**

NEP 2020 views teachers as practitioner-researchers capable of examining their own practice, identifying issues that occur in the classroom and making use of inquiry-based approaches to continually improve. In this domain, standards promote:

→ Reflective journaling, peer assessment and debriefing of the lesson

→ Participation in action research, case studies and new classroom ideas.

Improving instruction, by means of findings of the testing and student remarks. Due to this, teacher education must instill a culture of reflection practice early in the course and help students to think critically and carry out research during their education.

### **Institutional Alignment with Emerging Standards**

To operationalize these principles, Teacher Education Institutions (TEIs) should bring changes in terms of their structure and curricula not only in regular programmes such as B.Ed., M.Ed., Integrated B.A.-B.Ed./B.Sc.-B.Ed. and even diploma programmes. Among the most significant things that are improved are:

→ →the curriculum changing rote learning to competency-based learning objectives.

→ →Introduction of clinical aspects such as virtual classrooms, microteaching and the real school internship.

Constructing teaching, language, ICT and inclusivity labs in those way students will learn by doing. Interdisciplinary and multilingual teaching forms a part of the wide-ranging curricular aims of the NEP. As an example, the new B.Ed. program under NEP would, besides the typical offerings that include topic knowledge and pedagogy, also cover the school leadership, inclusive education and the use of technology in the classroom. Model Schools and practicum-based learning provide teacher candidates well-organized field experience so that they could apply what they are being taught in the classroom.

### **Role of NPST and NCFTE in Standard Setting**

The skills that teachers will require at various levels of their careers are indicated in the National Professional Standards for Teachers (NPST) that the NCTE developed under

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NEP 2020. Curriculum, teaching and testing in teacher education would be based on National Curriculum Framework for Teacher Education (NCFTE), expected to be released soon. These frameworks will: → Establish a coherent standard of new, experienced and expert teacher. → Ensure that training of new teachers and professional development of existing teachers (CPD) is aligned.

Facilitate the ability to provide TEIs with consistent accreditation and performance based tests. NPST and NCFTE will collaborate in order to build a uniform system which will be nationally acceptable, locally relevant and in comparison to the best of the best events around the globe. This will ensure teacher training assists in attaining the general objective of good and effective education and equality.

### **Accountability Mechanisms**

Accountability ensures that there are standards whose outcomes are measurable. NEP 2020 envisages an accountable system that has numerous layers:

- ☞ **Regulatory Oversight:** the rules will be altered by NCTE and NCERT in the way they only pay attention to performance measures but not ensuring that the physical infrastructure is in compliance.
- ☞ **Accreditation and Ranking:** The National Assessment and Accreditation Council (NAAC) and the proposed National Higher Education Regulatory Authority (NHERA) would examine among other things, the performance of its graduates, the percentages of students securing jobs after their graduation, the percentage of students completing the programs and the amount of research made.
- ☞ **Institutional self-regulation:** TEIs shall install Internal Quality Assurance Cells (IQAC) to monitor academic and administrative standards, course delivery and stakeholder input and use of resources.
- ☞ **Stakeholder Feedback Loops:** The stakeholders that will provide the feedback include the teacher, the school mentors, students and community members either virtually or offline. This will make the education system more responsible to the individuals using it. Data also should be open and available. NEP 2020 requires publicly available dashboards, score cards and monitoring systems that are linked with the Academic Bank of Credits (ABC) and the National Career Portal. This will allow data to be accessible on both local and national level.

### **Quality Assurance Framework**

In order to ensure that the teachers are well trained; they require reviewing and updating their work to meet the changing standards. The national and state-wide quality

assurance systems founded on NCrf (2021) concepts are endorsed by NEP 2020. The most important areas are:

- **Curriculum Alignment:** Ensuring that the curriculum is aligned with NCrf, comprising national ambitions of multilingualism, inclusion, experiential learning and critical thinking.
- **Peer Review:** Faculty exchanges, peer observations and collaborative program reviews among TEIs.
- **Performance audits:** verifying the quality of the grants in the library, strength of courses, qualification of the teachers and the extent of research incorporated in the curriculum.
- **Technology-Enabled Monitoring:** e-portfolios of teacher candidates, digital logbooks of school practice and learning analytics to track how the candidates perform over time. These rules ensure that over a period of time TEIs undergo change that is steered by internal and external quality loops, as well as respond to the needs at the state and school level.

### **Institutional Governance and Leadership**

Management and leadership are factors that precondition productivity of TEIs. NEP 2020 includes: → Autonomous Governing Bodies: TEIs owning internal boards, academic as well as standing committees which are supposed to plan, execute and evaluate how they will improve the quality.

- ☞ **Collaborative Governance:** Joint development and teaching of courses, joint employment of professionals as teachers and providing myriad forms of practice experiences by collaborating with schools, NGOs, colleges and professional organizations.
  
- ☞ **Merit and capacity building:** Faculty hires are made on an abilities-basis and capacity building through faculty development programs, incentives, sabbaticals and international linkages.
  
- ☞ **Resource Mobilization:** TEIs are advised to take the donations made by alumni, CSR support and business support through campus and charitable organization to facilitate professionalization and infrastructure development. It is also evident when an educational institution has a clear governance structure and demonstrates an adequate maturity to lead reforms implemented and maintain a culture of quality growth.

### **Professional Development and Continuing Education**

The job of a teacher according to NEP 2020 is transformed to a trained professional but is after all an expert permanently engaged in learning. This vision of lifelong learning is realised by:

- Integrated Continuous Professional Development (CPD): TEIs providing stackable micro-credentials through the ABC where teachers can advance their competencies in inclusive pedagogies, the role of technology and/or leadership.
- Cluster-Based Innovation Hubs: Regional centres of excellence enabled by TEIs and offering workshops, school-based action research and lab schools to which teacher candidates and practising teachers can go to test new things and reflect on what they did.
- UP Digital platforms and EdTech integration: Massive Open Online Courses (MOOCs), blended learning units, peer communities of practice that may enhance personal development of a person through making him/her think about his/her job and establish his/her own objectives. These instruments enhance conformity to norms, responsibility and professional agency of teachers which increases classroom practice.

### **Value of Data and Monitoring**

Quality assurance is founded upon rational choices founded on information. NEP 2020 emphasizes: Comprehensive Data Collection: Becoming aware of both inputs, (as in the number of teachers and condition of the schools infrastructure) processes, (as in the hours the student spent in practicum or how to read) and outcomes (as how much the students learned and where the teachers were stationed).

- **Learning Analytics:** Employed in order to identify gaps, assist in curriculum modification and monitoring the competency of the teachers in all TEIs.
- **School Education Data:** How ready are teacher education graduates on using the National Achievement Survey and the school dashboards? With transparent oversight in place, it becomes easier to ensure input reaches the regulatory bodies, institutions and classrooms that they serve.

### **Challenges and Mitigation Strategies**

Implementation of standards, accountability and quality reform has the following problems: - Institutional Resistance: A traditional mindset, the bureaucratic or political influence may have slower movement to change. There can be an enlargement of the gap between the urban and rural population since there are no specific funds to pay, language assistance and mentorship opportunities in the remote areas. NEP 2020 has the concept of corrective actions such as e-mentoring students, faculty exchange between regions, national mission's grants and government facilitation of digital access bridges.

### **Conclusion**

The National Education Policy (NEP) 2020 envisions teacher education in India as a dynamic, accountable and quality-driven system rooted in professional excellence. Through the introduction of the National Professional Standards for Teachers (NPST) 2022, this vision

seeks to redefine teaching as a rigorous and evolving profession guided by measurable competencies and reflective practice. The reform emphasizes the integration of standards, collaboration and continuous improvement to ensure that teachers remain adaptive, innovative and ethically grounded in their professional roles. Transforming Teacher Education Institutions (TEIs) into centers of excellence aligned with outcome-based frameworks will be key to achieving this goal. By fostering professional accountability and enabling structured Continuous Professional Development (CPD), NPST can cultivate a new generation of educators who embody both pedagogical mastery and moral purpose. Ultimately, the synergy between policy reform, professional standards and reflective practice will ensure that teacher education in India not only meets global benchmarks but also nurtures educators capable of shaping the intellectual and moral fabric of future generations.

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**Embracing Multidisciplinary and Holistic Learning for a New Era of Education**

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**Abstract**

The learner in the 21<sup>st</sup> century has to be able to deal with complex and interconnected world that requires more than subject specific skills. This chapter discusses the transformative prospects of multidisciplinary and holistic ways of learning in transforming education provision to the future. Abandoning the classic top-down model and instead focusing on the interdisciplinary between science, technology, engineering, arts and mathematics (STEAM) combined with ethics, language and socio-cultural views. In addition to expanding intellectual horizons of the students, multidisciplinary learning encourages thinking, creativity and real-life problem-solving skills. The chapter through relevant examples like the approach to solving water scarce situation involving the input of geography, science, ethics and the media illustrates how integrated learning equips the students to respond to the real world challenge. The other significant paradigm, which concerns the learner, is the holistic paradigm that centers the emotional, social, physical and spiritual growth of the learner. Placing the focus on experiential and social emotional learning, it will foster empathy, mindfulness, resilience and solid identity. The National Education Policy (NEP) 2020 of India is also discussed in the chapter although it is used as a driver to integrate these approaches into the daily education. The NEPs idea of flexible curricula, vocational integration, life skills and the basics of literacy and numeracy denotes the necessity of a change of educational philosophy. The chapter ends with a revision of the role of teachers who will act as knowledge generators but not as the providers of the content to be conveyed. It promotes the usage of cross-curricular planning and project-based learning as the aids to the development of this vision. Finally, the idea of multidisciplinary and holistic education is brought up not only as some kind of reform but as some revolution in education needed in order to produce adaptive, kind-hearted and skilled global citizens.

**Keywords:** Multidisciplinary learning, Holistic education, NEP 2020, 21st-century skills, Experiential learning, Integrated curriculum

**Introduction**

Formal education has been organized along disciplinary silos in much of the 20 th century and the early 21<sup>st</sup> century. The different subjects were segregated into classrooms and mathematics was taught on one corner, literary on another yet science was exclusively in the labs and in most cases, both arts and physical education was treated as side-lines. This kind of

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segmentation of knowledge not only influenced what students were allowed to learn, but their sense of how learning became fragmented: as individual bits of isolated information tied together by textbook subject matter and time slot boxes. The teachers assumed the role of keeping guard over single subjects and most testing included encouragement of rote learning in opposition to integration of ideas.

It does not resemble these academic ivory towers much of the world in which students are becoming to live in. Problems in the real world are not labelled either as a math problem or history problem. Climate change cannot be resolved by science only but requires law, ethics, politics, engineering and behavioural psychology. Major outbreaks (an example of a pandemic) require cooperation between biologists, statisticians, social workers and communication professionals. The 21<sup>st</sup> century is a convergence century-and complexity demands convergence. These pressures of the mismatch between what the real world needs and the reality of the classroom has been encouraging educationists to review with a fresh pair of eyes the ways of doing education. In India, the NEP 2020, the Futures of Education initiative by UNESCO and the emerging learning trends all seem to be converging around the same appeal; we need to eliminate the silos and most importantly we all need to create learning spaces which are reflective of inter-connectivity of knowledge and life.

### **The Shift in Educational Philosophy**

The transition between siloed learning and multidisciplinary, interdisciplinary and trans-disciplinary learning is not a pedagogical experiment but a natural reaction to more modern-day learner's demands and challenges. Current students are also not mere recipients of information today; they are producers, problem-solvers and meaning-makers. They need to have the ability to analyze, synthesize, collaborate and innovate that is applicable to the world they live in, where things change too fast and cannot be predicted.

Multidisciplinary learning provokes students to pursue themes and issues that move across topics. Curriculums such as STEAM [Science, Technology, Engineering, Arts and Mathematics] are already offering a foundation and even beyond that the vision is to incorporate language and humanities, social sciences, life skills education, environmental education and ethics into that learning experience. This makes educating more finite, situational and effective.

To give an example, starting with a lesson on sound, which in physics spreads into music theory, then relates to cultural rituals using chants or instruments, into biology using auditory health and finally into a production project in the media. The learner does not merely know about the sound he/she feels it, he/she associates it with life and contemplates what is meant by it in personal, societal and scientific terms. This cultivates a more rounded approach to material and allows students to view education as an all-connected venture and not a fragmental array of various topics.

### **What Is Multidisciplinary Learning?**

Multidisciplinary educational learning refers to one of the types of learning in which several fields in academic disciplines are brought together in order to study a similar theme,

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issue or problem. In contrast to the traditional education, in which each subject is presented as an independent system, multi-disciplinary learning enables cross-Jurisdiction study, which enables students to:

### **Explore broader and more nuanced perspectives**

- Use a variety of investigative techniques and approaches to analysis
- Develop integrated solutions, which are an embodiment of the dynamics of real life situations

Such a strategy encourages flexible and creative ways of thinking, learning to solve problems and reason empathetically- aptitudes that are becoming more necessary in work and civic settings. It shatters the fallacy that subjects are sealed off spheres and encourages collaborative and curiosity based learning.

Geography also gives information on the climate, terrain and regional water resource.

Water cycles are explained by science, as well as purification technologies and sustainability explainable by science.

Economics is a consideration of the cost involved in the infrastructure, the model of demand-supply and budgetary consideration.

Civics and Ethics investigate fair sharing, policy system and rights of a community.

Media Studies or Art would enable students to produce any documentaries or infographics or help create public awareness campaigns.

It is not only an expansion of knowledge, but it makes the issue more human. Students not only have to learn what and how and also why and to whom. They grow intelligent in compassion-to be able to operate not only with logic but with accountability and intent.

### **Why the Collapse of Silos Matters Now**

The cross-disciplinary understanding and innovation is needed now more than ever in the era of climate emergencies, artificial intelligence, the pandemic, immigration crisis and financial turmoil. The current education system has to change in order to nurture learners that are able to discern relationships, comprehend complexities and make ethical decisions. The silos made sense in the past, but they currently plateau the forms of integrative, collaborative and critical thinking we require in personal and global citizenship. The breaking down of silos does not herald the death of disciplines- but the start of dialogue between them. It is a call to transition isolation to inclusion, inflexibility to flexibility and content learning to deep purposeful applied and transformative edification.

### **The Holistic Learning Paradigm**

There is a fundamental change in the way education is being handled modernly and the most crucial aspect of this change is the growth of an emotionally, wisely, morally and socially aware citizen and not just a well-educated person. This process is anchored in the holistic paradigm of learning in the realization that students are multidimensional and cannot

be treated as mere containers of knowledge; they are learners who are dynamic and influenced by their feelings, relationships, environments and experiences.

Holistic education is education of the child as a whole child spiritually, socially, physically, emotionally and intellectually. It is not just about a laser focus on school performance and the focus on issuing grades or standardized test results; but about developing inner skills to help them be curious, self-aware, empathetic, resilient, creative and critical thinkers. One is not merely preparing learners to do exams or take up jobs the purpose is to prepare them to get through life.

**As the poet W.B. Yeats famously said:**

**“Education is not the filling of a pail, but the lighting of a fire.”**

This metaphor captures the spirit of holistic education—igniting lifelong learning, purpose and passion within every child.

### **Core Pillars of Holistic Learning**

Several interrelated components support the holistic paradigm:

#### **1. Mindfulness and Well-Being**

Central to holistic education is the realisation that it is not possible to teach a child without making them feel safe, seen and supported. Mindfulness activities, like breathing, reflective writing and time of silence, allow the student to achieve mental focus and emotional stability to cope with the stresses in their life and acquire inner consciousness. Studies carried out in schools that introduce mindfulness usually note impairments in attentiveness, behaviour and control of emotions.

#### **2. Social-Emotional Learning (SEL)**

Social-emotional learning equips with skills that help to be aware of emotions, establish relationships, solve problems and make sound decisions. SEL assists students in being able to:

- Self-understanding and self-management
- Empathy and sympathy
- Collaboration and a good communication strategy

Such abilities are necessary not only in school but throughout professions, interpersonal relations within and without groups and friendship. Emotional intelligence has become an essential skill in a time of diversity and changing world.

#### **3. Experiential and Reflective Learning**

Social-emotional learning equips with skills that help to be aware of emotions, establish relationships, solve problems and make sound decisions. SEL assists students in being able to:

- Self-understanding and self-management

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- Empathy and sympathy
- Collaboration and a good communication strategy

Such abilities are necessary not only in school but throughout professions, interpersonal relations within and without groups and friendship. Emotional intelligence has become an essential skill in a time of diversity and changing world.

#### **4. Individualized Learning Paths**

A holistic curriculum centers on the individual as a whole person and it considers the fact that not all students are alike. It pushes:

- Various types of instruction
- Styles in project and learning Path in project and learning

According to the theory that states that we have multiple intelligences, Howard Gardner says that there are various types of intelligence.

Individualised application of goals The support given to the kids is not only in the material learnt but also in the learning process. This can make them grow to possess agency, independence and passion in learning and reading.

#### **The NEP 2020 and Its Call for Transformation**

The holistic vision is very similar to the National Education Policy (NEP) 2020 in India. The key purposes of education highlighted in NEP 2020 are flexibility, integration, equity and well-being with a different emphasis than previously used with a strong emphasis on tests. The policy views education as a process of transformation that makes the people ready to be conscious citizens in a complex dependent society.

NEP 2020 favours comprehensive education as it encourages project-based learning and the inquiry based, discussion and discovery based learning using flexible curriculum and mode of teaching. Pupils are able to study many various topics without any strong restrictions.

- Vocational Integration: NEP will uphold the dignity of employment and practical implementation of the knowledge, through the introduction of work based learning at least a Grade 6 level (examples: carpentry, coding, farming and crafts).
- Emphasis on Life Skills: Life skills such as creativity, working together, critical thinking and the ability to solve problems are all valuable 21 st century skills. They must be inculcated at young age through college.
- Foundational Literacy and Numeracy (FLN): The core disciplines remain pertinent though they should form part of a combination that introduces basic skills to digital fluency, health and culture awareness, ecological awareness.
- Integration of Academics and Values: Moral education, environmental sustainability, empathy and community service are among the things taught in the curriculum, therefore ensuring that the kids do not just excel in school but well within the society.

### ☞ **A Child-Centric Vision**

Another prestigious quote of a Vision of Kids NEP 2020 is that it is not a race to the top in education but a journey towards becoming full. Under this policy, a student might read about controlling code when listening to classical music, reading about agriculture when looking at the effect of climate change and reading about social responsibility when developing the local community efforts. This freedom and interconnectivity facilitate an imagining where students should not be manufactured in factories but well and nice to be human beings that have a motivation to learn, care and risk.

### **Benefits of Multidisciplinary and Holistic Learning**

The positive impact of integrating the multidisciplinary and holistic aspect of education will be immense not only to learners, but to educators, institution and society, as a whole. It allows escaping the situation of memorizing isolated facts and building meaningful knowledge of the real world and passive reception to active exploration and co-creation.

#### **1. Promotes Creativity and Innovation**

By exposing students to intellectual and academic ideas in other fields, the student learns to think outside the box. In tackling a subject as all-encompassing as climate change across the disciplines of science, geography, economics, literature and art, students are trained to draw together different ideas, relate disparate ideas and develop their own knowledge.

Such inter-disciplinary involvement of the mind brings about the thinking outside the box and innovativeness, which is a key in enabling a person to be equipped with problem solving skills that are very much needed in most professions in the contemporary world. As an example, integrating the art of data science and psychology can spawn technologies in mental health or integrating the field of biology with design can prompt sustainable bio mimicry solutions.

#### **2. Encourages Collaboration**

Team work and collaborative thinking are inevitable to a multidisciplinary learning. With interdisciplinary projects, when students are scheduled to design a sustainable city, they need to collaborate with others, who possess different strengths, one might excel on math and the others on visual arts and another on converting ideas into persuasive rhetoric.

The collaboration of this sort has an analogy to the real workplace scenario, where success relies on the common ambition, addressing the other party respectfully and the capability of working with different opinions. Such experiences enable the students to gain interpersonal skills, leadership traits and collaborative mind frame and these are key skills in the 21st-century workforce.

#### **3. Builds Empathy and Social Awareness**

Holistic and multidisciplinary education via the connection of learning to social, ethical and environmental themes provides a sense of belonging to the rest of the society. The

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students who encounter issues about public health, gender equity, water conservation or indigenous knowledge systems are made to view the world according to the eyes of others.

This instils compassion, cultural awareness and civil ownership, displacing the educational focus that centers on self-accomplishment, like the one put forward by creative education in which learning is designed so as to meet the needs of collective survival. Students are more likely to become caring, active citizens as they read and analyze stories, they gain experience working in the community and they consider the ways they can contribute to society.

#### **4. Strengthens Critical Thinking**

Traditionally, one can come across students who are studying alone and end up doing tasks whose solutions have been known. Multidisciplinary learning, in its turn, stimulates the doubt, confusion and discovery. It causes students:

- To challenge what they believe is real to them
- To consider various versions in their major form of thought
- To consider the ethical implications
- To consider other than one means of action

This type of dynamic thinking enables the learner to be more intellectually grounded and adaptable in handling complex scenarios with assurance. As an instance, to determine the impact of AI on jobs, one has to think critically about technology, the economy, the law and human rights.

#### **5. Improves Engagement and Motivation**

When the education is provided in the form of meaning, interrelated and applied presentation the students are more involved and internally motivated. They are becoming able to attribute what they learn to their lives, desires and communities.

Purpose-driven learning comes through project-based opportunities, such as making a podcast about local biodiversity, a geography and math lesson on mapping traffic or writing a child rights-focused play. This expands student ownership, curiosity and a feeling of accomplishment, which makes the student learning process more joyful and sustainable.

#### **The Teacher as a Facilitator of Connections**

A learning environment that is multidisciplinary and holistic shifts the job of the teacher a great deal. Teacher no longer simply instills the knowledge of this or that subject, he/she transforms to be a:

- Curator of learning experiences
- Designer of cross-disciplinary lessons
- Mentor who will foster inquiry and discovery
- A bridge between knowledge and reality

This transformation moves an instructor into the mode of a learning facilitator, whose primary responsibility is to assure that students can make connections between various subjects, make some parallels, ask questions and consider what this knowledge means to them individually and as a part of society.

**Key Teacher Roles in This New Paradigm:**

- Cross Subject Planning: The teachers collaborate with each other to create cross-linked learning modules across subject. As an example, food security would necessitate science (food and nutrition, agricultural sciences), economics (supply chains), language (writings reports) and social studies (public policy and access).
- Project-Based Learning: Teachers guide inexperienced learning like in the real world that includes group work, problem solving and critical thinking. Some things that can be done are creating models, conducting polls, creating digital stories and assembling awareness campaigns, among others.
- Instead of examinations, Methods of Integrated Assessment: Portfolio evaluations/rubrics/ Reflective journals/ performance activities are becoming the standard. These approaches do not only examine what you know, but also evaluate how you are able to collaborate with people, be inventive and ethical thinking.
- Assistance with feelings and advising: Teachers play great role in determining what each student is good in, what they like and what difficulties they have. They provide emotional well-being to students, give students motivation to learn independently and foster growth mindsets within holistic classrooms.
- Teacher Professional Development: To make schools ready to take up this new job, teachers have to improve their performance. The planning of the training should be directed at the following areas: creating an interdisciplinary curriculum, deploying technology to integrate disciplines, prompting questioning, discussion and practical work and the assessment of the 21st-century skills and competencies. The introduction of initiatives such as NCERT's cross-curricular training modules or even the NISHTHA (National Initiative for School Heads and Teachers Holistic Advancement) have begun to address these needs but the change will require institutional buy-in and investment on a system-level to maintain the momentum.

**Conclusion**

The 21<sup>st</sup> century is in need of more than literate people; it requires inquiring, inventive, caring and collaborative students, who must be able to move forward through uncertainty, find meaning through interpreting a variety of viewpoints, address global problems in an ethical way. Holistic and multidisciplinary learning does not only involve a single approach to learning; it is a philosophy that is transformational and redefines the place, content and process of learning in the contemporary world. Breaking disciplinary barriers and acknowledging the learner as an all over human being, intellectually, emotionally,

socially and morally, enables us to draw nearer to a more seamless, significant, more human oriented model of learning. When learning moves in tandem with life, values and purpose, learning becomes a generator of lifelong inquiry and civic involvement as well as personal development.

The National Education Policy (NEP) 2020 gives India a chance to ingrain these principles into the mainstream practice; this is a historical moment. Nonetheless, to make this vision a reality, we have to reconsider roles, re-engineer the curriculum, empower teachers and reinvent assessment. It requires system-level cooperation between schools, policymakers, teacher education institutes and societies. Adopting the multidisciplinary and holistic learning is actually a mission to move education beyond teaching towards inspiring learning; to educate learners to excel not only to live in the world of justice, sustainability and interconnected world; but also to live to make a difference. A new age in education dawns not in policies and programs or even in curriculums, but in classrooms where connection, creativity and compassion are valued.

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**Empowering Educators through the National Curriculum Framework for Teacher Education  
as a Pathway to Pedagogical Transformation**

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**Abstract**

The National Curriculum Framework of Teacher Education (NCF-TE) is the basis of teacher education re-imagined policy instrument in India. It has been positioned to ensure that teacher education is oriented towards the overall educational goals as well as constitutional idealism. In its vision, a constructivist teacher-centred pedagogy, inclusive educational practices, reflective or critical teaching and life-long professional development are given priority. The development of teacher education policy in India can be tracked through the shifts in the NCF-TE 2009 to the draft NCF-TE 2021 rolled out in the National Education Policy (NEP) 2020. Compared to the 2009 framework, the 2021 draft focuses on moving beyond integrating content knowledge and pedagogical skills, instead incorporating skills of dealing with issues in a rapidly changing society that are now paired with a diverse, challenging society. In the structure, a teacher is not only conceptualized as an instructor but a reflective practitioner and agent of change. Such a position needs to be able to support a learner-based and holistic learning that builds up the cognitive, social, emotional and ethical aspects. There are reported major implementation difficulties. Efficiency has been limited by inconsistencies in institutional capacity, minimal faculty development and poor, integration of practice and theory as well as diversity in state level adoption. It is recommended that the pre and in-service training should be enhanced, that the continuous professional development should be embedded, that it requires a contextual relevance and that there is a good structure of quality assurance. Applied faithfully, the NCF-TE can become a model to transform the process of teacher education and training into an adaptive, vibrant and socially rooted system that would equip pedagogues with the demands of 21<sup>st</sup> century classrooms.

**Keywords:** National Curriculum Framework for Teacher Education, Pedagogical Vision, Teacher Education, National Education Policy 2020, Reflective Practice, Constructivist Pedagogy, Inclusive Education

**Introduction**

Any strong and efficient educational system is based on teacher education. It is in a central position of training people who will develop the intellectual, moral and social fibre of

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the coming generation. Teacher quality is a key factor that influences the learning of students, educational equality and national progress (UNESCO, 2016). The necessity of reform in teacher education has long been perceived in the Indian context as it is still surrounded by many challenges; old curricula, poor pedagogical training, lack of contextual relevance of training and poor institutional capacities are some of them (NCTE, 2009). National Curriculum Framework for Teacher Education (NCF -TE) formulated by National Council of Teacher Education (NCTE) forms a paradigm shift in preparing, mentoring and continuing support to teachers throughout their career.

The background of the NCF-TE may be identified in several educational policies and commissions that pointed at key gaps in the current system and appealed to the realization of a new vision of teacher education. One that came out prominently was that teachers and the quality of education are closely intertwined (Kothari Commission, 1964/66). It said in the categorical terms that the future of India was now being fashioned in her classrooms (Kothari Commission, 1966). However, decades after, systematic changes in teacher education had not been very operational but majorly aspirational.

National Policy on Education (1986, revised in 1992) reaffirmed the necessity to transform teacher preparation and acknowledged teacher as the key player in the national attempt to create a just, fair and knowledge based society (MHRD, 1986). Although these were policy commitments, delivery was spotty at best with huge variations in the quality of teacher education institutions (TEIs) in various states and localities. Even after implementing the National Curriculum Framework (NCF) 2005, with its constructivist and learner-centered pedagogy, there is a need to move towards a more pedagogically sound approach to school education in India, with an insistence on quality delivery in teacher education institutions (TEIs). The change required an equivalent change in the nature of teacher preparation to work with learners in complexity and diverse classrooms.

NCF-TE (2009) was formulated to meet this challenge as it offered a constructive teacher education framework with professionalization, pedagogical competence, contextual learning and ethical responsibility. The main aim of the NCF-TE is to ensure that the teacher education is designed as a transformative agent that is more than just conveying the tank of content knowledge. It draws a vision of teachers, who no longer act as implementers of the curriculum, but as powerful reflective practitioners, curriculum developers and facilitators of learning. The framework insists on the abandonment of the behaviorist patterns in teacher trainings that are usually characterized by prescriptivism, strict syllabus and incursionistic assessments in favor of those more dynamic as well as inquiry-based and active patterns of professional development (NCTE, 2009). In this vision, teachers become life-long learners that continuously build on their practice through reflection, feedback and societal needs as they evolve.

### **Evolution of Teacher Education in India**

Indian teacher education is a complex venture that has traversed through historical transformations, socio political and policy level changes. It is important to consider this

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evolution to put into perspective the importance of National Curriculum Framework to Teacher Education (NCF-TE). Similar to the whole education sphere, teacher education in India existed in conditions of the colonial period and had its evolution of reforms that tried to democratize the education sphere and bring it more inclusive, responsive and professionally strong.

### ☞ **Early Initiatives and Colonial legacy**

Formal teacher education in Indians roots can be traced back to the colonial era when the British brought modern education in the form of the Hindu College (1817) and the Elphinstone Institution (1834). An important manifestation of the implications of the interest in the possibilities of English education in India was the Wood Despatch of 1854, sometimes referred to as the Magna Carta of English education in India which recommended the foundation of teacher training institutions in the interests of school development (Nurullah & Naik, 1951). But the training that took place during the days of the British rule remained more mechanical and was concentrated on producing clerks and the lower level of bureaucrats but not the educators who could think critically about the use of pedagogy or society or both.

The goal of the colonial era was to propagate rote learning and strengthen hierarchical, exam-based education. Teacher education thus came to mean formal certification as opposed to pedagogical breadth or the reflective practice. The priority was given to standardized approaches, common syllabus and classroom discipline and there was minimal respect to socio-cultural situations of Indian learners (Chatterjee, 2012). The teacher was prepared as someone who passes on knowledge and not someone who facilitates learning.

### ☞ **Educational vision the Post-Independence**

The post-independent era of Indian independence in 1947 led to the renewed efforts of social transformation in the country starting in education. The aim of education as projected in the constitution of India was to establish an equitable, just and democratic society using education as the primary tool. In this regard, teacher education became relevant as one of the ways to promote these values in students. The post-independence policies defining the first years of Independence policies concerned themselves with expansion, standardization and institutional development sponsored by the state.

The University Education Commission (1948-49) which was headed by Dr. S. Radhakrishnan also suggested that teacher education be professionalized gained more connection with the university and a liberal education to a teacher was well rounded. It underlined the fact that, teachers must have a good knowledge of psychology, philosophy and pedagogy besides subject knowledge.

### ☞ **Kothari Commission and Kothari Commission Origins**

The explosive transition of teacher education in India was noted by the suggestions of the Kothari Commission (1964). They also proposed a wide-based educational reform

agenda that would run on a national basis with the teacher as the determinant of the action plan. These ideas were expressed in the statement that, the fate of India is being decided in her classrooms (Kothari Commission, 1966).

Some of the recommendations of the commission were to set up a single national education system, development of District Institutes of Education and Training (DIETs) and incorporation of both pre-service and in-service training. Value-based and moral education were stressed and teacher education was advised to be upgraded at the levels of university departments.

The report immediately affected the policy regarding the national policy on education (NPE) 1968 and subsequently NPE 1986 that turned out to be the semi-markers of the policy. The 1986 policy emphasized on the training of teachers to take up various roles such as a facilitator, curriculum designer, evaluator and a moral guide (MHRD, 1986).

#### **☞ Part 2.4 Formation of NCTE and structural reforms**

Another breakthrough was the setting up of National council of teacher education (NCTE) in 1995. It was developed first under NPE framework and was brought to its full statutory authority after the NCTE Act (1993). It was authorized to formulate curriculum guidelines, accredit and regulate teacher educating institutions, conduct research and maintain quality by a periodical review (NCTE, 2009).

Nevertheless, issues such as fragmentation and low quality prevailed with such actions. The teacher preparation programmes were undermined by rapid growth of unknown colleges, which was driven more by business than academic interests (Kingdon, 2017).

#### **NCF 2005 and NCF-TE 2009 Paradigm Shift**

National Curriculum Framework (NCF) 2005 formulated by NCERT was a step towards constructivist learning where the NCERT focused on the independence of the learner and the social interactions and the thought process. This necessitated a revolutionary approach to training of teachers. To address this pedagogical transformation in school education, the NCTE formulated the NCF Teacher Education (NCF-TE) 2009 to redesign pre-service as well as inservice training programmes and contextualize them within a larger vision of education that is democratic and constitutional.

The NCTE expressed the necessity to re-identify the character of a teacher--not a curriculum carrier but as a moral, intellectual mentor, able to construct open and decentralized learning experience (NCTE, 2009). It made a suggestion of pedagogical theory and its practice to be jointly integrated with critical reflection and consciousness of the social context of education. The pedagogical intent of the teacher was that of a reflective practitioner who approaches the classroom issues using critical thinking, discourse and adjustment.

#### **New paradigm in NEP 2020 and Draft NCF-TE 2021**

The latest stage in the development of teacher education has been conditioned by the National Education Policy (NEP) 2020, which implies systematic changes in the following way:

- Setting up of multidisciplinary institutions of teacher training;
- Adding a 4 year-integrated B.Ed. programme as the normal standard;
- Phase-out standalone institutions of teacher education;
- Focusing on the professional growth and competency assessment (Ministry of Education, 2020).

In implementation of this policy, Draft NCF Teacher Education 2021 was introduced which was targeted at carrying NEP objectives into reality. It is meant to expand upon the framework envisaged in 2009 and encompass digital pedagogies and strategies of inclusion as well as best practices at the global level. The process of transformation of colonial models into reflective, holistic and professionalized approach to teacher preparation in India is an indication of India moving towards quality education as a right of everyone.

### **Core Objectives of NCF-TE**

National Council for Teacher Education (NCTE) has been able to outline an overall plan of bringing about change in teacher education in India through their National Curriculum Framework for Teacher Education (NCF-TE) 2009. It came about due to the following reasons: critically raised by the academicians, policymakers and educators to address issues on how teacher training in the country was fragmented, too theoretical and lacked context sensitivity (NCTE, 2009). It has the objectives of updating teacher preparation programs with constitutional vision of education, the pedagogical principles suggested in the National Curriculum Framework (NCF) 2005 and socio-cultural contexts of Indian classrooms.

NCF-TE is based on democratic ideals, constructivist pedagogy, social justice and professional development that lay at the roots of their core goals. All these objectives can be seen as a paradigm shift towards more one-dimensional concentration on passing knowledge, but a heavy emphasis on better processing, inclusive education, moral values and reflective practice.

### **Important Goals of NCF-TE**

#### **☞ Rethinking Teacher education as an extended continuum**

Treating teacher education as a lifelong process is one of the major aims of the NCF-TE. Instead of just focusing on professional learning provided during pre-service frame, the framework lays emphasis on continuous in-service training, mentoring and reflection. This career continuum covers the areas of pre-service through induction and in-service of a teacher and it is intended that this will sustain a professional development of the teachers involved.

Teacher education must be able to produce professionals that will not only be able to respond to the present issues in education but also transform with the shifting social and technological worlds (NCTE, 2009, p. 16).

#### ☞ **How to combine Theory and Practice**

The drawback of the classical approach to teacher preparation has been the fact that the learning of theory and real-life teaching in the classroom are interpreted as separate domains. NCF-TE promotes an integration of the curriculum that combines theory of education, knowledge content and experiences in the field. The aim is to foster motivation between the campus and the classroom and make sure that teacher trainees acquire practical skills based on the conceptual knowledge (NCTE, 2009).

The framework suggests longer and more purposeful school internships to engage the prospective teachers in reflecting their experiences, conducting the action research and getting constructive feedbacks via mentors. The Draft NCF-TE 2021 further adds in making the recommendations of the training based on practices and pedagogies locally grounded (MoE, 2021).

#### ☞ **Fostering Reflection and inquiry based practice**

The other long- term agenda of NCF-TE is to build teachers as critical and reflective practitioners. Teachers are only supposed to be textbook teachers or curriculum implementers but analyse, adapt and innovate according to the needs of various learners.

NCF-TE relies on the principles of Dewey and Schon and represents teaching as a located, interpretive and containing/not neutral action (Zeichner & Liston, 2013). The instructors are asked to challenge their beliefs, communicate and constantly evaluate their teaching decisions using the reactions of the students and the changes taking place in the social context.

#### ☞ **Insisting on Encompassing and Equal Schooling**

The framework is quite emphatic on having a socially fair education system in which every child irrespective of caste, class, gender language or disability can flourish. NCF-TE encourages teacher preparatory schools to produce teachers that are aware of the concept of diversity and difference and have a desire to establish an inclusive classroom.

This aim is in line with the provisions of the inclusive education in Right to Education Act (2009) and the NEP 2020 which both emphasize fair access and achieve learning outcomes. Educators should be ready to resist any form of discrimination, identify structural impediments and teaching methods that honor and address the different socio-cultural background of learners (NCTE, 2009).

#### ☞ **Cultivation of Ethical and Democratic values**

The teachers are perceived as nation defenders who are entrusted to uphold the values, which are identical with the Indian Constitution, secularism, pluralism, equality, justice and

respect to dignity of the human person. The NCF-TE thoughts have asserted the shaping of ethical and moral sensibilities as one of the objectives of teacher education.

This includes:

- ☞ Embracing discussion and critical thinking over challenges of gender, environment, peace and human rights.
- ☞ Promoting democratized decision-making in the classrooms.
- ☞ Training of the teachers to act as examples of democratic behaviour and inspiring student agency.

☞ **Teacher Professionalization Prologue Professionalization Enigma** Defining Professionalism Professional Gain: The Basis of Permission Prologue Lots of Things Customers Like: The Loss of Professionalization The other important goal is the acceptance of the teaching profession as one that is knowledge-based and professional. The NCF-TE demands the outlined professional standards and competencies, accountability mechanisms and peer learning designs that allow expanding teachers in the communities he/she practices.

### **Pedagogical Sight NCF-TE**

Pedagogical vision of the National Curriculum Framework teacher education (NCF-TE) is a definitive shift in the orientation of teacher education in India. Leaving behind teacher-centred, transmission paradigms behind, NCF-TE conceives a transformational, participatory and inclusive pedagogical vision. It claims that the teachers should not only be given the content knowledge, they should also have the excellent knowledge about the social, cultural and psychological contexts in which learning occurs. The vision of pedagogy provided in NCF-TE is strongly connected to the National Curriculum Framework of 2005 that has brought about a constructivist and child-dominated realm of knowledge in school education (NCERT, 2005). In turn, the NCF-TE reacts by redefining teachers, learning strategies and the purposes of education as such.

Some of the major aspects of the Pedagogical Vision

### ☞ **Constructivist theory of Learning**

A constructivist epistemology forms the core of the NCF-TE: a constructivist constructs knowledge through an active process within a context specific setting, not as a receptorial process. Based on this understanding, according to this approach, learners not only understand the world but they also make sense of the world by relating the new experiences with already existing cognitive structures (Piaget, 1970). Therefore, educators have to create learning conditions, in which the emphasis is put on exploration, questioning and sense-making as opposed to unquestioning memorization.

NCF-TE asks the teachers to be facilitators or mentors that help the students create their own meaning by conversing, discussing and critically interacting (NCTE, 2009). The former model differs with the classical interpretation of a teacher as a conveying source of some pre-defined knowledge.

Teacher education should also be changed; it should no longer be oriented towards teaching but rather towards learning: it should no longer aim at delivering knowledge, but at allowing knowledge to be constructed. (NCTE, 2009, p. 22)

#### ☞ **Reflective Practice and Teacher Autonomy 4.2**

The other assumptions of the pedagogy vision of the NCF-TE is that of reflective practice. Educators are welcomed to become reflective practitioners; they should analyze and perfect their pedagogical ideologies and practices. Based on Donald Schon idea of reflective practitioner, according to the framework, good teaching is practiced by inquiry and experimenting and searching professionally (Schon, 1983).

NCF-TE postulates the idea of reflective journals/writing, teaching portfolios and action research projects as key elements in teacher preparation. Such enables future teachers to institute a habit of a methodological consideration of their teaching, student learning and the socio-political aspects of education on a larger scale (Zeichner & Liston, 2013).

#### ☞ **Context-sensitive Inclusive Pedagogy**

To a large extent, the inclusion and equity are a feature of the pedagogic vision. It is one of the priorities of NCF-TE that the needs of marginalized and diversified learner groups should be sensitised particularly SC/ST students, girl students, religious minority, children with disability and girls with linguistic minority. The model demands active opposition of biases and discrimination in teaching and establishing a pluralistic classroom culture with regard to human dignity.

It involves having teacher education which incorporates units on inclusive education, gender and social justice studies. Educators are encouraged to recognize the systemic obstacles to learning and devise the right measures that are contextual so as to encourage participation and success among the learners (NCTE, 2009).

#### ☞ **Teaching Dialogic and Participatory**

Following the works of such thinkers as Paulo Freire, the NCF-TE aspires to educational dialogue, in which teaching is viewed as a process of knowledge construction between an instructor and a student. Since the willingness to share ideas should be a critical point, the role of a teacher entails co-producing knowledge during conversation, questioning and discussion (Freire, 1970).

Such vision is also applied to teacher educators/student-teachers connection. The teacher training course itself needs to be built around participatory pedagogies involving peers and guiding each other through research and exploration as opposed to top-down instruction (leadership).

#### ☞ **Synthesis of Knowledge, Pedagogy and Values**

NCF-TE pedagogical vision emphasizes the fact that teaching cannot be value-neutral. Teacher education curriculum needs to blend both disciplinary education with

cultural awareness, cultural sensitivity and ethical thinking. NCF-TE demands that the preparation of teachers put front and center questions of why to teach, what to teach and how to teach and a profound consciousness of the educational, social and constitutional purposes of schooling (NCTE, 2009).

Teachers are supposed to develop critical thinking, democratic citizenry and ecological consciousness among the students, which is an extension of education as a tool of personal and social change. NCF-TE pedagogical vision presents a futuristic, humanistic and context specific paradigm of teacher education. It aims at developing teachers that are intellectual beings who can be autonomous yet morally sound and responsive in society. Through concentration into following areas constructivist learning, reflection practice, inclusiveness and participatory teaching, NCF-TE intends to ensure that teaching is not only a technical aspect of ability but, also a moving and changeable occupation. When executed well, vision can greatly ensure the country raises the standard and equity of education in India.

### **Teacher as a Change Agent**

One of the radical ideas of the National Curriculum Framework for Teacher Education (NCF-TE) is an attempt to redefine the teacher as a change agent. Earlier traditions teachers in India were considered to have a larger role as transmitters of dictated knowledge with authority. The NCF-TE saw to it that it cuts across this marginal aim and proposed an advanced professional identity, the teachers as participants who are reflective, ethical and socially minded professionals in the course of creating an equitable and democratic society (NCTE, 2009). It has been recognised that education is not, as people may tend to think, neutral and value-free but rather a highly moralistic and political transaction. In this vision, the teacher will not only play an executor role of a curriculum but will act as an intellectual and moral guide. It is anticipated that such a teacher will address inequality and transform classrooms into an arena of dialogue, critical reflection and social justice.

### **☞ Social Justice and Democratic Citizenship**

Another important objective of the NCF-TE is the education of the teachers who share constitutional principles of liberty, equality, justice and fraternity. The questions of caste, gender, class, language, religion and disability are to be proactively tackled. Educational learning spaces that are discriminative will be confronted and demystified (NCTE, 2009). With inclusive pedagogy, the students belonging to the marginalised community will be empowered. Educators have the role of developing a critical consciousness among students who would otherwise be excluded in the education process by keeping them on the sideline (Freire, 1970). According to the NCF-TE (2009, p. The concepts of 35) derive that teachers should be empowered to foster active informed citizenship in democracy.

### **☞ Learning Realities of the Learners**

The NCF-TE emphasizes that the experiences of the learners should be incorporated within the classroom processes. The teachings are to include the local languages, local

cultural backgrounds, histories and realities in learning (NCERT, 2005). By doing this, the role of the teacher as the textbook-centred authority is changed into a collaborator who makes knowledge. This kind of contextual engagement validates the identity of students, which enables them to feel relevant and this is where the relevance of learning increases, especially in the case of India, where learning takes place in diverse, multicultural and plural societies.

#### ☞ **Promoting Critical Thinking and Agency**

Teachers as change agents are supposed to nourish not only knowledge but also thinking and citizenship. It is expected that learners should be stimulated in questioning and in the search of alternative points of view and engaged in making joint decisions (NCTE, 2009). The present vision is similar to what Dewey (1916) and Freire (1970) proposed, namely that education has to enable the learner to question injustice and to imagine a social alternative. The teachers are thus to acquire competencies in democratic dialogue, positive dissent and enabling student voice.

#### ☞ **Providing Change at the School and Community Level**

The NCF-TE also conceptualizes the teacher as a leader, be it school or community. Examples of the roles are contributing to school improvement plans, working with the parents and other stakeholders in the community and raising advocacies of inclusive policies (Govinda & Josephine, 2004). By participating at the grassroots, the teachers affect common people views on education and impact overall processes of social changes.

#### ☞ **Ethical and Professional Responsibility development**

The main concern of the teacher-as-change agent framework is ethical behaviour and professional integrity. The teachers are those who act as role models influencing the morality networks of the students. Teacher education thus needs to combine philosophy of education, ethics and social justice so that graduates of teacher education become public intellectuals (NCTE, 2009). This is echoed by the NEP 2020 which demands that the profession uphold the best quality, dedication and accountability (Ministry of Education, 2020).

### **Conclusion**

The National Curriculum Framework on Teacher Education (NCF-TE) is a radical roadmap in which the role and preparation and ongoing education of educators in India are restructured. Based on the vision of the National Education Policy (NEP) 2020, the NCF-TE goes beyond the conventional forms of training teachers to adopt a global, integrated and learner-centred model of pedagogy. It understands that teacher empowerment does not only mean subject knowledge but entails to provide the participants with professional skills, ethical concepts and research-based reflection on teaching in order to establish inclusive and democratic classes. This chapter has touched on the philosophy of the NCF-TE whereby teacher education is viewed as a continuum that starts with the pre-service learning and continuing in in-service development and based on the professional experiences in the

classroom. It fosters pedagogic innovation and interdisciplinary learning, multilingualism and making and experiential learning and thus teachers should not only be the depositories of knowledge but also the support and guides of inquiry, creativity and critical thinking. The framework makes educators the agents of change in school systems and the society, in general, by integrating values of equity, diversity and social justice into its foundation. Effective execution of NCF-TE has to involve the systemic commitment of all actors, including teacher education institutions, regulators, government and teacher educators. Curriculum reform has to be coupled with strong assessment systems, strength in academic leadership, good infrastructure and capacity building. When properly implemented, NCF-TE can professionalise teaching in a way that is transformative, responsive and future-ready and enable teacher to create not only competent learners, but socially aware citizens as well. Only in this way, through such empowered teachers, it is possible to reach the wider objectives of NEP 2020 and construction of a country.

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**Fostering Research Culture in Teacher Education as a Growing Priority**

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**Abstract**

Teacher education programs have been designed to prepare future teachers and provide them with knowledge and skills of pedagogical nature as well as practical skills. Nevertheless, the increasing focus on research culture is a big change as it signifies the role of research in improving the teaching practices and outcomes. The National Education Policy (NEP) 2020 in India acknowledged the significant role of research in the teacher education practices and recommended inclusion of pre-service teacher education into multidisciplinary research settings. According to this policy, the role of the combination of quality content, pedagogical skills and research proficiency in teacher education programs is emphasized. A research culture impacts on attitudes, beliefs and behaviours that promote continuous inquiry, reflection and knowledge creation, in addition to incorporating research methods coursework. It enables the pre-service teachers to embrace the pedagogical practices based on research, evaluate the existing practices and take data-driven measures to shape the instruction positively. Nevertheless, issues of time constraints imposed on the research and the demand of faculty development still loom. Studies analysed show that the nature of research culture within the educational institutions is complicated. However, factors like motivation of the faculty, leadership of the institute and the availability of resources are key to developing a research culture. A research points out the need of having accurate policies, growth of faculty and collaborative research activities. The focus of research in institutions needs to be on increased productivity, enhanced quality of education and achievement of goals set out in such initiatives like NEP-2020. A favourable and wide-based support is important to create a strong research culture within education organization. The paper ends by proposing some of the best ways/strategies of developing a research culture in teacher education and these are: through-curriculum integration, mentorship, student-initiated research as well as faculty development opportunities. With the adoption of such ideas, teacher education would bring forth self-reflective teachers that would be actively involved with research that would lead to the consistent growth of the practices in education and student learning processes.

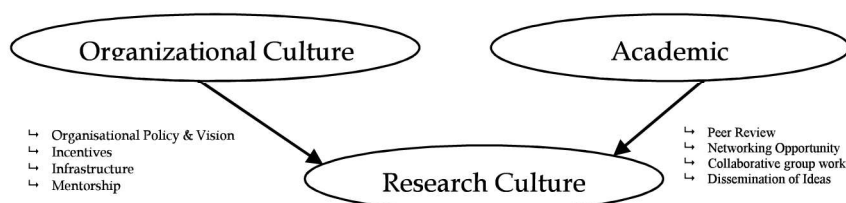
**Keywords:** Research Culture, Teacher Education, Academic Culture organisational Culture, Research Practices, Research Outcomes

## Introduction

There is a growing tendency to admit the point that the creation of research culture during the teacher education is the necessity required to foster innovation in education and ensure that the methods applied by the teacher are effective and modern and address the current problems. Over the years, the primary objectives of teacher preparation have included preparing current information about pedagogy and developing good teaching skills. Nonetheless, there has been a paradigm shift after the creation of a research culture. The situation is different now since teaching and research are discussed as connected and helpful to each other avoiding the status of separate disciplines. The requirements of the 21st century presuppose that educators should constantly revise and enhance their practices according to the latest research results. There is an insistence to update knowledge particularly due to the pace at which technology is growing, the evolving requirements of education and the intricacy of the challenges in society.

In teacher-education culture, research culture is not just matter of including research methods in the curriculum. Rather, it has a wider scope of attitudes, beliefs and behaviours that promote inquiry, reflection and knowledge creation. This culture grows a climate where the faculty and the pre-service teachers actively participate in the research activity, participate in the critique of the existing practices and have the research-based strategies implemented to enhance the educational results. The very term has changed epitomes over time as the role of research towards defining both knowledge, policies and practices have increasingly taken precedence in different areas. Traditionally, the main task of educational establishments and especially universities was to spread the existing knowledge by teaching. But the role of research began to be promoted beside that of teaching in institutions of higher learning through the centuries especially when there was growth in scientific research in the age of Enlightenment.

The result of an overlap of the organisational and academic culture in educational and research institutions is referred to as research culture. The two cultures complement each other in bringing necessary components that engender a type of environment that facilitates a favourable atmosphere where inquiry, knowledge generation and scholarly engagement is emphasised. Learning how these two cultures can integrate is key to the establishment of a viable and prosperous research culture.



The combination of a successful organisational and academic cultures leads to a strong and healthy culture of research. Thriving institutions integrate research into their fundamental missions, developing equilibrium among research and teaching and community involvement

such that the leaders and academic constitutions of such institutions both appreciate research as a central part. Such a correlation promotes policies, incentives and practices that favour research and academic inquiry. The interdisciplinary collaboration and innovation are further promoted by institutional policies that manifest academic values that embrace scholarly rigour, peer review and publication of information and reward high-quality of research work. The organisational arrangements of enhancing teamwork, e.g. research centres, cross-disciplinary grants, converge with academic scholarship, which produce a substantial multi-disciplinary research group and unprecedented results.

Also organisational policies such as development of research competencies through professional practice and guidance improve motivation and research participation in the scholarly world. Academic culture enforces research as an identity of the scholar that creates an environment whereby the faculty and students are encouraged to conduct research. Additionally, the organisational culture offers the requisite infrastructure and administrative support in maintaining research through the years and the academic culture develops ideational inquisitiveness and scholarly concepts, which becomes a downright culture of the unceasing inquiry. Combined, these forces comprise a research culture that thrives and this brings benefits to institutions and society with the constant production of knowledge. Such convergence makes research so it is not isolated but rather used as a central aspect of academic personality and university missions.

The NEP 2020 further underlines in India the formation of a positive culture of research even in the field of higher education and even in the field of teacher training. Research culture has been a comparatively new and yet very relevant issue in relation to teacher education. Historically, teacher education concerned itself with skills and techniques of classroom management and pedagogical practice. Nevertheless, with the advent of requirements in education systems across the globe to have more evidence-based teaching practices, the necessity of incorporation of research into teacher education programs at large became evident. Issues of research in teacher education are regarded as an avenue of enhancing learning practices, aiding reflective teaching and influencing the policy. The policy advocates reformulation of the teacher education centers and institutes so that research takes centre stage enabling pre-service and in-service teachers to pursue research-oriented practices. Although this is known to be important, there are numerous issues that have been identified in developing a strong research culture in teacher as well as higher education. These comprise balancing of teaching and research roles and institutional support and their ability to access resources. Yet, the process of building a research culture is crucial in constantly enhancing education systems and educators capable of responding to the modernizing postulates of the 21st-century classroom.

Consequently, the enhancement of research culture has become a universal concern and both institutions and governments are spending more funds towards building an atmosphere that will encourage research to become the main academic and professional endeavour. This transformation is associated with emerging realization that research is the motivating force behind the academic searches and direct input to the advancement of society, economic growth and enhancement of educational achievements. A number of

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studies have emphasised on the need to create a research culture in educational establishments. To illustrate this, Santo et al. (2009) note that there must be a need to change a culture based primarily on the service and teaching approach to an orientation centred on research and scholarship. There are several factors that must be dealt with in this transformation and these are institutional leadership, faculty motivation, resources availability. On the same note, Iqbal, Jalal and Mahmood (2018) discuss the factors that affect research culture in publicly established universities and they emphasize the role of institutional policies, faculty support systems and faculty participation that contributes positively to a favourable research culture.

National education policy (NEP) 2020 of India is historical as it clearly identifies the necessity of a healthy research tradition in teacher education. To match the needs of the 21<sup>st</sup> century, the NEP 2020 seeks to establish an all rounded and holistic education system which will focus on research as a tool in improving the quality of education available. The policy recommends a reform of the teachers training systems to encourage pre-service teachers to experience more close contact with multidisciplinary research settings thereby narrowing the loophole between theory and practice.

### Review of Related Literature

In these studies that constitute the analysis at present, the works highlight the various aspects of barriers and supports that impact faculty productivity and create the climate of research in learning institutions. The article by Santo et al. (2009) gives a basic idea about the obstacles and facilitating factors that affect faculty productivity in research in educational establishments. In their study, they have shown that the institutional leadership, encouragement and resource availability are some of the most important factors that can become one of the most crucial steps in changing the teaching-oriented culture to a research-oriented one. Such is not an easy change, however. There is also the problem of heavy teaching load on faculty members, which does not allow them to pursue meaningful research jobs. Moreover, there is also a deficiency in terms of institutional support, (through funds and the availabilities of research resources) to compound these challenges (Santo et al., 2009).

In supplement to this school of thought, Iqbal, Jalal and Mahmood (2018) further elaborate on this by considering the aspects that affect the research culture in state universities in Punjab. The importance of the institutional as well as individual elements is highlighted in their study in determining the research culture. Although the institutional policies and resources are quite important, the role of the faculty motivation and its individual research commitment is presented in the study as well. Surprisingly, environmental factors, i.e. the more widespread academic culture and the expectations of society were viewed as less significant, which indicates that influences of a research culture are more crucial among the internal factors of the institution. (Iqbal et al., 2018).

Olvido (2021) brings another perspective to such debate, the ROI of the research culture of an institution. The research comes up with six general themes associated with the consequences of strong research culture, which include enhanced performance by the faculty, higher production in research and elevated reputation of the institution. This view is

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especially applicable in the practice teaching where the advantages of a research culture may not just be based on the faculty members.

Foregoing in an effort to describe his ten-year working experience Movahhed, (2023) presented four significant factors that influenced the conduct of research within research departments in education Mass-publicationists (who majorly dwell on mass media), technics Methodists (who majorly focus on methodical factors and dismiss social grassroots problems and produce as many commodities as possible under any circumstances), true-academic culture (which still resist and ignore outside pressure and implement global academic ideals) and profit-making culture (that considers universities as literal markets to harness and maximize the profit that

Attempting to find causes of the less developed academic system, Teodorescu, D. (2000) also attempts to explore similarities and differences between the publication pattern and research productivity as a cross-national indicator of research. Two factors are found to be important in the study; individual characteristics and External rewards (including institutional and other government funding). By using Individual faculty members of the chosen universities as the source of data, the study makes a conclusion that individual inscriptive variables had no effect on productivity. Taking into account all 10 countries in the focus of the research, inscriptive variables do not make any difference in the productivity. There were four countries (Brazil, Israel, Korea and Mexico), where international networks increased productivity in the countries. There was academic rank in terms of productivity in Australia and Britain. In all countries, reward variables are usually crucial in terms of productivity. Support by institutions is not crucial in productivity.

Salazar-Clemeyna and Almonte-Acosta (2007) reviewed the prevailing culture of research in the Philippine institutions of higher learning (HEIs). The faculty see a wide range of research culture features such as impact of research, administrative processes, cooperation between institutions and research funding opportunities as having only moderate levels of existence. In their research, it is evident that the culture of conducting research in those institutions is usually poor. The authors make significant emphasis regarding importance of research in enhancing the ability of HEIs to educate learners and this requires substantial research culture in promoting the growth of the institutions under the wider national development. The absence of well-focused research orientation amongst faculty members, non-provision of adequate funding and low amount of research output are some of the most prominent impediments in this regard whose presence cannot be changed even by the policy initiatives undertaken by Philippine Commission on Higher Education (CHED) to enhance research by establishing the Zonal Research Centres. The final finding of the study encourages the HEIs to incorporate more research in their institutional missions by the help of faculty development programs, favorable rules and regulations and adequate funds (Clemena & Acosta, 2007).

The analyses of Gulzar (2023) study the benefits of research culture in Pakistani traditional education institutions and Technical and Vocational Education and Training (TVET). The report highlights the significance of research in creation of current knowledge and promotes creativity as well as bonding of academicians and businesses. The findings

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have shown that effective research culture enhances quality education and assists in generating a skilled labour workforce capable of meeting demand of both domestic and international market. The paper also outlines the importance of research culture within the Technical and Vocational Education and Training (TVET) schools, because both industry-based practices within the educational departments and innovation in its teaching methods play important role in equipping students who become members of workforce. The study, however, also names other critical issues that hinder the development of the research culture in Pakistan, namely the absence of infrastructure, financial restrictions and a shortage of official support. Gulzar makes a point that Pakistan should invest more in research and development, especially in educational establishments to have sustainable growth and development (Gulzar, 2023).

Jayachandran and Chandrasenan (2021) devote themselves to building an and validating Institutional Research Culture Scale (IRCS) in Kerala, Indian universities. The identification of the importance of a strong research culture, which can be described as the behaviours, values, expectations and attitudes and norms of academic institutions is discussed in the study. The authors determine five main determinants of the research culture as institutional culture, working conditions, research infrastructure, research collaboration and sharing as well as research institutional research policy and agenda. Having developed the IRCS, the study creates a useful instrument in an effort to measure and improve the research culture in institutions of higher education. The results indicate a strong research culture is critical towards enhancing the quality and quantity of the research output which will eventually lead to knowledge improvement and economic growth of the region. Additional problems of the Indian universities, including a lack of research products and institutional support with development of the infrastructure, are also noted (Jayachndran, 2021).

Pratt, Margaritis and Coy (1999) examine the case study on how a university faculty managed to shift their environment to highly research oriented faculty to teaching oriented one. Based on the case example of the School of Management Studies at the University of Waikato in New Zealand, the authors reiterate the sensitive managerial decisions and tricks that were used to encourage research productivity. Based on the study, development of a research culture is identified as linked to decentralisation, leadership at dean level, strategic change in terms of prioritising research as important factors. The authors posit that in transforming the organisational culture into one in which the research is given importance, it is essential to modify the faculty beliefs, attitudes and their values. The above transformation is witnessed by the growth in research output and the number of staff with doctoral qualifications and a change in the attitude of staff towards the value of research. The research has come up with a paradigm of other faculties and institutions expanding their research potential and stresses that strategic planning and endeavour, leadership and resource provision are crucial to attain the same (Pratt et al, 1999).

Integrating the research findings in the above paragraphs, it is possible to assert that research culture can be defined as a complicated phenomenon, which combines a complicated relationship of various variables. A favorable research culture is created only when appropriate interventions and strategies are put in place. Outlining of institutional

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policies will promote faculty engagement in quality research and guaranteeing of the required resources and training are prima facie the most important determinants defining the research culture of the institute. The institutional leadership has to focus on introducing policies and practices that stimulate participation in research and facilitate the facilitation of faculty members and the resources that will help them balance their teaching and scholarship activities properly. Moreover, it is important to create an atmosphere of cooperation and mutual support in order to support an idea exchange and develop a community of practice that could appreciate and promote a study within and beyond disciplines. The review papers bring out the obstacles that may be cluttered by institutions of learning in order to open up the path towards a more vibrant research culture, as underlined by NEP-2020, focusing on cultivation of a thriving research culture.

### **Challenges of Developing a Research Culture and Teacher Education**

Teacher education programmes are (and have historically been) concerned with imparting the pedagogical expertise and practical knowledge that would allow future educators to be effective in the classroom. Nevertheless, over the last decades, a greater focus has been on the incorporation of research in teacher education with a space of research culture that encourages the thoughtful inquiry, critical thinking and professional development as a profession. Although it seems that the idea of having a research culture in the teacher education is beneficial, it is difficult to promote. In this section, these challenges are highlighted in details with references to numerous studies and reports in order to demonstrate the complexities of the establishment of a strong research climate in teacher education programs.

#### **☞ Balance of Teaching and Research Parenting**

Faculty members find it very hectic balancing between teaching and conducting research, a factor that has been considered as one of the major challenges of instilling a research culture in teacher education. Teacher education programs are usually intensive in terms of teaching; therefore, there is less time and energy a faculty member has available to commit to research.

Research conducted by Clemena and Acosta (2007) indicates that teaching is more bankable to the faculty members in most educational institutions since they have so many teaching obligations to accomplish. Such disproportion reduces the amount of time that can be dedicated to research and may also affect the quality of the research that will be researched. Those faculty members who are strained by duties of teaching might not be in a position to employ reflection and profound inquiry to produce excellent research. The fact that the only thing that they focused on was teaching responsibility added to the imbalance even more. Therefore, the culture of research may take some time to emerge with faculty members being less enthusiastic in conducting research. In order to resolve this challenge, one of the strategies that institutions may want to employ is cutting down teaching loads of faculty members in the university by capping undergraduate and postgraduate level students.

The policy shift to the inclusion of research scholars in the teaching at least at the undergraduate level has high potential and can strike a balance.

### ☞ **Wants to do away with a Lack of Institutional Support**

A research culture needs to be encouraged in teacher education by institutional support. Nonetheless, most institutions do not have the resources and the required infrastructure to facilitate research activities. Research works have established the significance of institutional leadership to a research culture.

Nonetheless, inadequate funding, barrier to access to research facilities and insufficient support on administrative aspect of research enterprise are some of the challenges observed in many teacher education programs (Jayachandran & Chandrasenan, 2021). Lack of funding means that academicians could lack the necessary resources like research software, academic journals or access to conducting conferences thereby lacking the crucial channel of sharing research findings.

### ☞ **Building Research Competencies**

The other issue that might pose a big struggle in creating a research culture in teacher education is the need to improve research capabilities amongst the faculty members. Although a vast majority of educators may be highly skilled pedagogically, they might be considered not skilled enough in research competencies due to lack of skills in data analysis, writing papers and research design (Pratt, Margaritis, & Coy, 1999). Such educational short-coming in research skills can hinder the capacity of the faculty members to undertake quality research and partly contribute to the research repository of the respective field.

Supporting research is a specific area that requires some specific professional development opportunities that would support the enhancement of research methodology and academic writing skills, such as among faculty members. This can be facilitated by institutions offering workshops, mentoring programs and access to research resources that will enable faculty members develop their capabilities in research. In addition, partnerships with proven researchers or research organizations can give the faculty member good learning experience where they could develop their research skills through practical experience.

### ☞ **Developing a Favourable Research Culture**

An effective research culture requires the ability to foster an effective collaborative and supportive community where ideas and as well cooperation in research are shared. But establishing such atmosphere may be especially difficult in teacher education where research work has been historically under-valued relative to teaching-oriented authority. The problem that is faced by many institutions is the lack of culture of research since the faculty members are seen not to regard research as part of the professional responsibilities. Such less emphasis on research may act as a hindrance towards collaboration between the members of the faculty since they are less likely to participate in any research efforts once they feel that this is not the main duty in comparison with teaching.

In order to develop positive research climate, institutions should engage in encouraging research value and development of collaborative possibility. These involve the establishment of research forums that organise workshops as well as hosts seminars where faculty members get to present their works, obtain feedback and have significant discussions with their fellow colleagues. Next, institutions must promote interdisciplinary modes of research cooperations that have the potential to unite the faculty across departments and disciplines to collectively work on a particular research project. Collaborations of this nature might add new perspectives and dimensions to the research process and lead to creation of a rich research culture.

### ☞ **Competency and Motivation**

Competency levels and motivation of the faculty are vital issues in the establishment of a research culture. Whereas some teachers might have the research ability, others might feel unmotivated or incompetent to carry out the research. Motivation is paramount to research productivity, especially where the research lacks hefty rewards and recognition (Clemena & Acosta, 2007). The faculty members who do not clearly understand why it would be of great benefit to them to take up research or who are faced with serious hitches like unavailability of time or resources, might find it difficult to remain motivated to learn how to discover a scholarly problem.

In order to overcome this challenge, institutions need to establish research conducive environment that acknowledges and awards research. The institute has a responsibility to provide incentives to the faculty where those engaged in research will be promoted, offered grants and their contributions acknowledged. Moreover, educators can assist the faculty by providing mentorship programs as older researchers can assist and motivate the novices of the research method.

### ☞ **Resource Allocation and Support Structures**

In order to establish a research culture into teacher education, ample support structures and allocations of resources are needed. Nevertheless, there are several concerns to be addressed in most institutions to support the required resources in research such as; research project funding, availability of academic journals and research dissemination platforms. Pratt, Margaritis and Coy (1999) noted that institutions which fail to invest enough funds into research might find it difficult to nurture a culture of research since faculty might not have the resources in terms of tools and facilities to carry out any meaningful research.

The research culture would also be determined by the institutional policies and reward system. There is a need to establish a conducive research culture through incentives. The inexistence of such incentives results in diminutive motivation amid faculty members to conduct researches. In response to these difficulties, institutions should centre their focus on research by investing enough monetary and resources into it and developing policies which acknowledge and reward the research work, as well as giving faculty members a chance to communicate and publish their research results.

**☞ Barriers of Culture/Policy**

Research culture in any education setting can be highly influenced by institutional culture and policies that exist about research. Some institutes also put more emphasis on teaching than on research and there might be no clear policies of engaging in research. The absence of research agenda is critical in establishing a research-oriented orientation among faculty engagement given that they might not consider research as their concern or a good attribute of their job profiles (Jayachandran & Chandrasenan, 2021).

Institutional leadership is an important attribute defining Culture of an institution and leaders who value research the most are in a position to make things easier to facilitate research activities. Institutional leaders should restructure the situation by making provisions to ignite research and initiate policies to activate the faculty members to conduct research. Some of the proactive behaviours by leaders are the initiation of research committees, provision of research grants and professional development opportunities that would focus on development of research skills. In addition, institutions ought to develop a research appreciation culture by identifying and rewarding the faculty contribution in terms of research.

**☞ Community Engagement and Collaborative Networks**

Access to collaborative networks and opportunities to build communities is the important environmental factors that determine the growth of a research culture. Access to collaborative networks makes the faculty members more persistent to research, which means that they are able to exchange ideas, obtain feedback and share the research activities. Nevertheless, several institutions struggle to support collaborations inside and outside the organization, an event that may thwart communication of ideas and resources needed to achieve vibrant ongoing activities (Iqbal, Jalal, & Mahmood, 2018).

In solving these challenges, institutions are encouraged to foster cooperation through the provision of avenues through which faculty members are able to socialize with faculty members elsewhere in the local institutions as well as the international institutions. Institutes should be able to achieve collaboration by organising conferences, workshops and research forums that would enable faculty members network and collaborate in research projects. Also, the colleges ought to promote community involvement, which are precious from the perspective of the faculty members and offer the possibilities of applied research.

**☞ Technological and Infrastructural Support**

In the digital era, it is hard to conduct research without any technological and infrastructural support. The high quality research has to be conducted by the faculty through the use of the technically advanced research software and access to digital libraries and facilities. Nevertheless, numerous institutions (especially the ones that are located in access areas) lack technological and infrastructural support in terms of research activities (Santo et al., 2009). Lack of such resources may even make it difficult to carry out research thereby hindering the institutionalization of a research culture.

In a bid to meet this challenge, institutions should invest in technology and infrastructure to support the research activity. Technological and infrastructural programs consist of access to digital libraries, research programs and the facility of modern houses. Also, the institutions ought to provide training on how to use these technologies to carry out the research through the skills that the faculty members require.

### Conclusion

The discourse concerning the formation of a research culture in the context of teacher education based on the observations that the set of attached documents brings, as well as on the neo-liberal policy, such as the NEP 2020, loudly highlights the paramount importance of a research culture and the range of its complexities. The culture of research is a complicated phenomenon that is predetermined by the interaction of a number of factors. Teacher education is an area of study, which yearns to obtain the status of a discipline. However, research plays a key role in teachers training also. The studies in teacher education cannot be omitted to improving educational practices, adding to the pedagogical knowledge and the professionalization of teacher educators. But the pathway to the achievement of a vibrant research culture has its fair share of problems. One of the barriers that the institutions will have to jump over is the need to balance teaching with research to get enough institutional support and develop faculty research competencies as well as develop an atmosphere that promotes collaboration and innovation. The answers to these questions is as multiplex as the questions themselves and the challenge can be realized through an integrated input that has to consider the demands of individual faculty members, the institutional strategic aims and the overall intentions of the education policy. Considering the identified obstacles and using the information gained due to scholarly researches and policy recommendations such as the NEP 2020, the sphere of teacher education will be able to do much to create a research-oriented environment.

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