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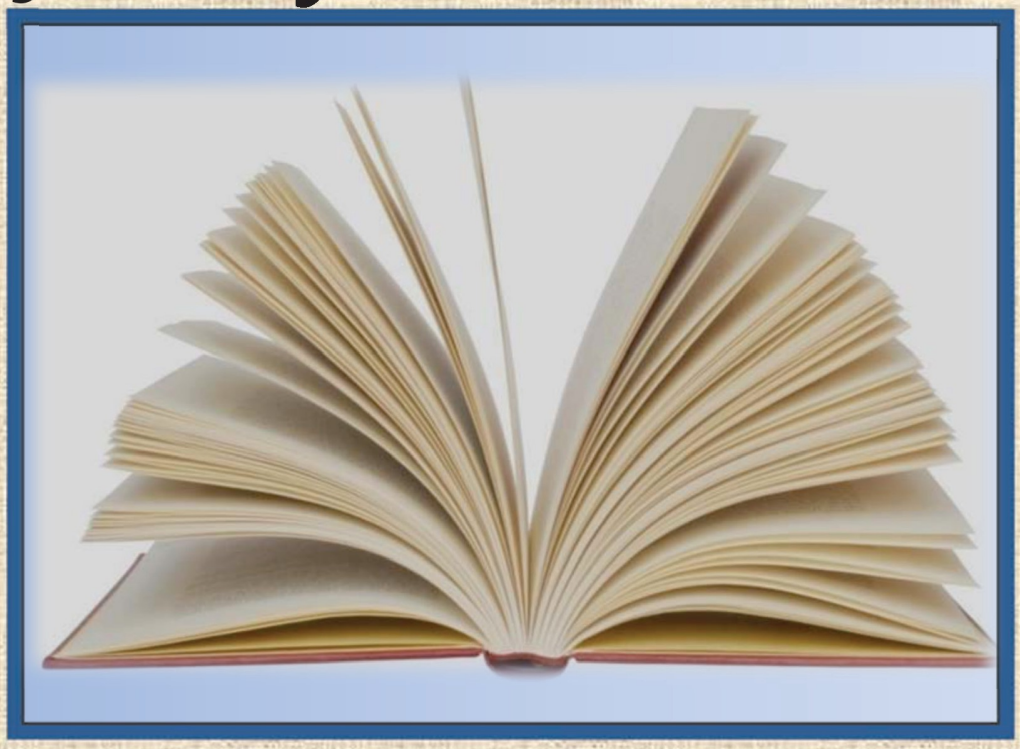

**Theme: QUALITY AND REFORMS IN EDUCATION**

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Volume 11 Number 2 March 2025

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# JAMIA JOURNAL OF EDUCATION

**A Peer Reviewed Refereed International Biannual Publication**

Volume 11 Number 2 March 2025

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जामिया मिल्लिया इस्लामिया
( केन्द्रीय विश्वविद्यालय )
मौलाना मोहम्मद अली जौहर मार्ग, नई दिल्ली-११००२५

JAMIA MILLIA ISLAMIA
( A Central University )
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(NAAC Accredited 'A++' Grade)

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प्रोफ़ेसर मज़हर आसिफ़
कुलपति

Prof. Mazhar Asif
Vice Chancellor

پروفیسر مظہر آصف
شیخ الجامعہ

## Vice Chancellor's Message

It gives me an immense pleasure to see that Vol.11 No. 02 of Jamia Journal of Education (JJE) is ready for publication. I feel even more elated to know that in this edition, 'Quality and Reforms in Education' has been chosen as its major theme. It is noteworthy that endurance, conformance to requirements and continuous improvement in the field of higher education apart from challenges pertaining to measuring quality are some of the global issues that need to be taken into cognizance with all sincerity.

I strongly believe that the valuable inputs given by the writers whose papers have been published in JJE would definitely apprise the curious readers of the quality reforms in higher education taking place across the world.

I congratulate the Dean, Faculty of Education, members; advisory and editorial boards and the office staff of the office of the Dean as contributors for taking pains in making this journal as an important treatise.

I wish that the Journal would continue providing pabulum for intellectual discourse among its readers.

**(Prof. Mazhar Asif)**
Vice-Chancellor

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अधिष्ठाता

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ڈین

## From the Desk of Editor in Chief

The Indian education system has evolved significantly over the past century. There have been concerted efforts to adequately address quality issues. However, challenges remain. Post independence reforms strived to improve quality and access to education. NEP 2020 is the latest endeavour in this direction. Despite a lot of progress, challenges like teacher shortage, infrastructure, technological divide, inclusion, equity and other issues retaining learners in schools are still lacking.

Attempts have been made to improve the quality of teachers and their professional growth by regularly updating curricula, reflecting current knowledge, imparting 21st century skills, integrating technology to effectively transform classrooms, enhancing students' learning and promoting distance and online learning. Inclusion is another ideology which has been actively embraced and attempts have been underway to implement it in all educational settings at all levels.

This current issue of the Jamia Journal of Education is valuable in that it reflects the current status and trend in this very important aspect- quality and reforms in education. In this issue we have attempted to include articles which reflect on different dimensions of quality and reforms in education across school and higher education institutions. I feel proud to bring forth this issue and thank all the contributors and my editorial team in this endeavour.

With best wishes

**Prof. Sara Begum**
(Editor-in-Chief)

# EDITORIAL

Quality and reforms in education are crucial for a country's road to progress and development. If the wheel of quality is not moved or remains stagnant then no significant changes for a nation's development will take off in the runway of growth and progress. Quality meams different things to different people. By "Quality in Education" is meant that a symbolic goal is focused at improving the whole child: the social, emotional, mental, physical and cognitive development of each and every student regardless of race, ethinicity, geographical location or demographic status. Hence, any attempt at understanding and defining quality education would signify an educational eco-system rooted in providing students with requisite skills, knowledge and values required for personal growth as well as harmonious living and growth of the society in which we dwell. By "Reform in education" is meant the various initiatives taken by policy makers at the national and state level aimed at transforming the educational horizon of the country. The National Education Policy (NEP) 2020 is a significant reform aimed at transforming the Indian education landscape. It seeks to make education more inclusive and accessible.

In Higher education, reforms are focused on improving quality, increasing accessibility and adapting to the evolving needs of the work force. Key reforms include: promoting multidisciplinary learning, multiple entry and exit, increasing Gross Enrollment Ratio by 50 per cent, enhancing research and innovation and providing Gretaer institutional autonomy.

Quality and reforms in education may be facilitated both at the policy and governance level wherein robust and sound policies are fomulated as well as effective implementation and monitoring. At the implementation level across various educational institutions both at the school and higher education level quality infrastructure, leveraging technology, teacher empowerment and professional development and promoting inclusivity , such measures will facilitate and promote quality and reforms in education.

The present issue of Jamia Journal of Education has 25 papers which approach the central theme *"Quality and Reforms in Education"* in varied ways.

The perspective of educational thinkers is taken up by the article of Sapna Raj on the *legacy of Madan Mohan Malaviya and Zakir Hussain* which highlights the visionary education these two educational thinkers of those times promoted which finds resonance with contemporary NEP 2020's transformational education policy. *Holistic education* finds reflection through the article brought out by Aakriti Gupta and Divya Gautam. Preetha Krishnan's article focuses on *Metaphor, Creativity and Existential Thinking: A New Perspective to ESL Classroom in the 21st Century*; and focuses on understanding the application of 21st century skills; article by Asia Nasrin provides an overview of *curricular pedagogies on soft skills for employability*.

Several articles focus on Inclusive education and Global education practices: in which inclusive and equitable education is highlighted through the articles of Rupam Priya's *Multilingual Education in India: A pathway to Inclusive and Equitable Learning for Global Citizenship*; Shiney Vashisht's article focuses on the different *educational models and approaches of the education of pastoral and nomadic communities.*

Several articles focus on pedagogical practices and strategies in education at various stages of edcation: Noureen's article focuses on *Foundations of Innovation: A Review of Coding and Computational Thinking Pedagogy*; Indu Dahiya dwells on *Equipping teachers with digital literacy and pedagogical skills*, and the article by Namrata highlights *science pedagogy for a sustainable future*.

Two articles focus on *Constitutional Values and Curriculum: Aligning Education with Democratic Ideals* by Pooja Rajak; *Constitutional Values Guide Our Educational Policies*: A Critical Analysis of Perspective of Prof. Mami Dala Jagadesh Kumar (UGC Chairman) by Shabnam and Savita Kaushal.

Article by Devika Sharma focuses on community *Read-Aloud in the Context of a Community Library*; several articles highlight how technology is playing a major game changer, its benefits and its challenges: Sneh Bansal and Savita Sharma's article focus on *constructivist approach and online learning*; ; Rajni Bala's article focuses on *exploring Internet Addiction Among Research Scholars*;

Two articles focus on Indian knowledge system: Mamta Singhal's article focuses on *Indian Knowledge Systems: Relevance and Integration in Modern Education ;* Moni Monjuri Phukan 's artcile focuses on *Nurturing Resilence and highlights the educational experiences of Mising Community learners with flood adaptive knowledge*.

There are two papers that take up the issue of teaching effectiveness: Sapna Raj's article on *Competency-Driven Learning: Aligning Competency-Based Education (CBE) and Competency-Based Assessment (CBA) for 21st-Century Skills;*

Nida Fatima & Quazi Ferdoushi Islam article focussed on the need for reshaping the pedagogy to understand classroom dynamics to cater to the teaching-learning environment of *learners at foundational stage*; Owaise Jan Kirmani & Nida Kazmi's article focuses on *rote learning to critical pedagogy and how NEP reshapes the same* as also highlighted by some common arching themes across few papers.

Few articles highlight the policy perspectives of several governmemnt policies and initiatives from curriculum and implementation perspctives: Zeba Tabassum's article on *revitalizing preschool education focuses on early childhood education as per NEP 2020*;

Shachi Vashisht, Veenu Wadha, Reetu Chandra's article focuses on *In-depth analysis of preschool curriculum of Delhi and Jammu & Kashmir: Examining alignment with NCERT curriculum*; from the policy perspective Vinod Kanwarias article provides reflection on *Policy on Education or Policy in Education: the debate*.

As is evident, the articles cover a wide range of topics focusing on key areas of quality and reforms in education aimed at improving the overall effectiveness of the teaching-learning environment, the facilitators, the challenges involved in ensuring literacy and education at all levels of education, incorporating 21st century skills, promoting inclusive practices and leveraging technology for "*Sabka Saath, Sabka Vikas, Sabka Vishwas*". Faculty of Education is extremely delighted to bring forth this issue in your hands and as always, we hope to have succeeded in providing to the academic community a vibrant platform for exchange of ideas.

**Editors**

# Multilingual Education in India: A Pathway to Inclusive and Equitable Learning for Global Citizenship

**Rupam Priya[1] & Nilima Khamurai[2]**

**Abstract**

*India, a nation with incredible linguistic diversities, faces distinct challenges and opportunities in the field of education. Multilingual education (MLE) in the country, has established itself as a channel in promoting inclusive and equitable learning. It mostly provides an opportunity for disadvantaged communities to access education by integrating regional languages, mother tongues, and global languages like English.This way, learning multiple languages helps the students to take part in the global market and build an avenue for mutual understanding and communication between cultures, a prerequisite for global citizenship. However, despite the far-reaching potential of MLE, it encounters obstacles in policy space such as lack of resources, shortage of trained teachers, and language politics, when it comes to its implementation in India. Therefore, this study discusses the necessity of a strong policy environment, a teacher education system, and community engagement. In addition, it also explores the language policy challenges posed concerning NEP 2020 in multilingual classrooms and advocates for inclusive, community-based, and practical strategies to bridge the gap between policy and practice. Moreover, the paper suggests possible solutions addressing the challenges posed in the implementation of the MLE programme and making India truly inclusive and globally connected.*

***Keywords:*** *Multilingual Education, Inclusive and Equitable Learning, Global Citizenship, NEP 2020, Teacher Education, India*.

## Introduction

**"Language is not a genetic gift, it is a social gift. Learning a new language is becoming the member of the club- the community of speakers of that language." - Frank Smith**

India isa land where each culture and language tells a unique story, creating a harmony that celebrates its vibrant diversity. It isoften described as a linguistic mosaic, with over

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19,500 languages and dialects, 22 official languages recognized under the Eighth Schedule of the Constitution (Census of India, 2011). However, being diverse is both, an asset as well as a challenge to the nation's education system. Furthermore, linguistic exclusion and all forms of educational inequity arose mainly from the acceptance of English as a medium of instruction in Indian schools, thus undermining regional and tribal languages (UNESCO, 2003). Hence, MLE came into being as a great remedy for ensuring inclusive and equitable learning.

MLE is not merely a strategy for academic success, it is a means to establishing global citizenship. With special emphasis on cultural sensitivity and linguistic proficiency, MLE prepares one for a globalized world while safeguarding one's linguistic heritage. The three-language formula envisaged in India's educational policy aimed to achieve a delicate balance between linguistic needs at the local, national, and global levels (Government of India, 2020).

NEP 2020 reaffirms India's commitment to MLE by advocating mother tongue-based education, particularly at the foundational stage. Also, compelling evidence suggests that children learn best when taught in their mother tongues during their early years of education. This kind of learning intensifies understanding, cognitive development, and retention (Mohanty, 2019). Additionally, MLE promotes social equity by narrowing education access divides for marginalized communities such as indigenous and rural populations (American Institutes for Research, 2021). In addition, the multilingual education approach resonates perfectly with Sustainable Development Goal 4 of UNESCO, focusing on inclusive and equitable education (UNESCO, 2016). Multilingualism, in fact, like no other tool, can help India eliminate social disparities, and improve cognitive skills and cognitive outcomes, driving the children towards global citizenship. Nevertheless, despite its great potential, MLE faces implementation challenges in India. However, if right intervention strategies and collective collaborative efforts are in place, MLE will be a great force for an unparalleled revolution into inclusive and equitable education.

**Multilingual Education: A Conceptual Framework**

Multilingual education refers to the usage of various languages as mediums of instruction in formal educational settings. This approach worked for strengthening instruction based on one's mother tongue while progressively including additional languages. The praiseworthy role of linguistic diversity is to acknowledge it as an asset in fostering inclusive education and fair access to education (UNESCO, 2003).

**Mother Tongue as a Foundation for Learning:**

The long-standing teaching of children in their language is displayed as the backbone of effective learning. Cummins (2000) believed that mother-tongue-based education enhanced cognitive development and facilitated second-language acquisition. In India, experience has shown that children taught in their home language perform better academically and socially (Mohanty et al., 2010).

**Global Citizenship via Multilingual Education:**

NEP 2020 aims to nurture global citizens who have empathy, compassion, and respect for other cultures. It aims to build global awareness by letting learners understand larger issues such as climate change and social justice. The policy wishes to prepare students for global challenges and international collaborations through Global Citizenship Education (GCED). Moreover, in today's increasingly globalized world, the ability to communicate across cultures impresses as an important skill. Multilingual education lays the foundation for students to become global citizens (Chumbow, 2018). The European Union (EU) has also advocated multilingual education as a means to enhance and enable intercultural dialogue and mobility (European Commission, 2017).

**MLE in India: Context and Policies**

Multilingual Education has a way of manifesting itself very differently in India on account of its own linguistic diversity and the constitutional provisions. This necessitates that education policies are made to support the varied linguistic groups in the country for the sake of equity and social justice (UNESCO, 2003).

**Constitutional Provisions and Language Policies:**

Article 29 recognizes the linguistic diversity in the Indian Constitution by providing a right to conserve distinctive languages, and Article 350A mandates the mother tongue instruction at the primary level. The 'Three-Language Formula' was introduced in the National Policy on Education, 1968 and recommended teaching mother tongue, regional language, and a foreign language usually English

**National Education Policy 2020:**

The NEP 2020 emphasizes that the medium of instruction up to Grade 5, and preferably through Grade 8 and beyond, should be the home language, mother tongue, local language, or regional language. Its three-language formula rewires the mother tongue, a regional language, and an international language (Government of India, 2020). It is aligned with the recommendation of UNESCO stating that, during the first six years of schooling, the mother tongue should be used as a medium of instruction (UNESCO, 2003).

There have been some welcome initiatives in the field of MLE. Various States in India have designed multilingual education programmes such as **Odisha's MLE Programme** where eight selected tribal languages have been introduced in the curriculum, hence improving literacy among tribal students (Mohanty et al., 2010). Further, the **Mother-Tongue Education in Andhra Pradesh** focused on tribal schools, this programme demonstrated improved student engagement and reduced dropout rates (UNESCO, 2017).

Nevertheless, despite considerable successes, implementation is still inconsistent because of policy-practice gaps, lack of resources, and resistance on the part of parents and teachers in preference to English-medium education.

**Teacher Education in Multilingual Context**

In a multilingual education system, teacher education plays an essential role in the overall development of the skills and certain knowledge that teachers need to steer across language diversity and facilitate inclusion in the classrooms.

**Challenges in Teacher Education Programmes**

Teacher education constitutes one critical aspect of the development and functioning of multilingual education. Yet, the following aspects remain unresolved:

**Lack of aptitude in languages:** In settings with multiple languages, teachers do not possess adequate proficiency in the mother languages of their students (Pattanayak, 2021).

**Inappropriate Teacher Education Programmes:** Most teacher education programmes in India do not include multilingual pedagogy or domain strategies for handling linguistically diverse classrooms (Mohanty, 2019).

**Inadequate Infrastructure and Resources:** Teacher Education Institutions (TEIs) often lack infrastructure and multilingual resource support for language instruction (UNESCO, 2017).

**Absence of Policy Alignment:** Teacher education programmes are often misaligned with policies on multilingual education, leading to inconsistent outcomes from such programmes (NCERT, 2020).

**Paucity of Technological Integration:** There remains a wide gap in the technological integration of teacher education programmes for multilingual education, which serves as a strong detriment in terms of bridging gaps in the availability of resources (Sharma, 2021).

**Recommendations Regarding Teacher Education**

**Curricular Reform:** Teacher education must incorporate an understanding of multilingual pedagogy with specific regard to elements of mother-tongue-based education.

**Professional Development Programmes:** Workshops, seminars, and in-service training for multilingual pedagogy need to be conducted regularly to improve the skills of teachers (Mohanty, 2020).

**Community Involvement:** Teachers should engage with local communities to promote their understanding of local languages and cultures (Skutnabb-Kangas, 2009).

**Technology Integration:** Digital platforms and applications can help teachers diversify their skills in several languages and provide suitable classroom teaching resources (Choudhury, 2020).

**Collaborative Learning Opportunities:** Teacher Education Programmes need to provide opportunities for peer collaboration and knowledge sharing among multilingual teachers.

**Multilingual Education: A Pathway to Inclusive and Equitable Learning**

Multilingual education offers many academic, cognitive, social, and cultural advantages that assist in holistic individual development and promote equity and inclusivity in multicultural societies.

**Cognitive and Academic Advantages:** Multilingual learners have better cognitive flexibility, problem-solving ability, and creativity than their monolingual peers. As per the study undertaken by Bialystok et al. (2009), bilingual subjects demonstrated superior executive control and multitasking abilities.

**Cultural Preservation and Identity:** Language is one of the main markers of one's cultural identity. Multilingual education aims to ensure linguistic heritage preservation and appreciation for cultural diversity. Initiatives implemented in India have shown that mother-tongue learners feel more connected with their community and culture (Mohanty, 2019).

**Social Inclusion and Equity:** Multilingual education helps to create good understanding and respect towards each other in the minds of students, thus contributing to national unity.

**Inclusive Education:** Multilingual education addresses the needs of the marginalized and minority communities, bridging the gap between the two. According to UNESCO (2016), mother-tongue education increases girls' and marginalized groups' access to education .

**National Integration:** Multilingual education develops mutual understanding and respect between students of different linguistic backgrounds, thus contributing to national integrity (Varthana, 2023).

**Challenges in Implementation**

Though multilingual education renders several benefits, it is significantly hampered in terms of implementation in India by linguistic, social, and infrastructural factors. What follows are some of the roadblocks of greater concern:

**Lack of Training for Teachers:** Shortages of professionally trained teachers in multilingual instruction. Multiple language instruction in indigenous languages suffers from a lack of professional development and materials available (Chettri, 2020).

**Resource Constraints:** Producing multilingual classroom textbooks and teaching materials is quite resource-intensive. Many of the states may seriously lack adequate infrastructural and financial resources for support in multilingual education (UNESCO, 2017).

**Policy-Practice Gap:** Though the NEP 2020 has set itself majestic goals, the uptake and implementation vary from state to state, producing various quality and outcomes that create gaps between policy and practice (Mohanty et al., 2010).

**Resistance to Change:** Resistance keeps multilingual education from gaining wide acceptance due to prevailing political ideologies and societal biases about dominant languages (Kumar &Rai, 2021). However, parents often believe that English-medium schooling is the better option for providing their children with economic opportunities, therefore resisting mother-tongue instruction (Pattanayak, 2021).

**Inadequate Government Support and Funding:** Limited financial and administrative support from the government sets back efforts to roll out multilingual education in less-developed parts of the country (Government of India, 2021).

These challenges speak of the complexity of implementing multilingual education in India. To overcome these hurdles, concerted efforts will be required on the part of governments, teachers, community members, and policymakers.

**Multilingual Education: Success Stories from across India**

India has witnessed numerous success stories in implementing multilingual education, reflecting the potential of linguistic diversity to ensure inclusive and equitable learning.

**Odisha's Srujan Initiative:** The Srujan initiative, in Odisha, has focused upon the development of culturally relevant learning materials in tribal languages such as Ho, Saora, and Kui. This has vastly improved the experience of tribal children in learning, effectively opening a potential window of opportunity (Odisha Primary Education Programme Authority, 2020).

**Andhra Pradesh's Tribal multilingual Education Programme:** The Tribal Multilingual Education Programme initiated by the Government of Andhra Pradesh has mostly succeeded in implementing multilingual teaching in the tribal belt through running subjects like Gondi and Koya. It has led to higher literacy rates among tribal children and decreased dropouts. Moreover, modules for teacher training have been developed (Andhra Pradesh State Tribal Welfare Department, 2021).

**Mother-tongue Education in Chhattisgarh for Tribal Children:** In Chhattisgarh, multilingual programmes of early childhood education integrate tribal language like Halbi, Gondi, and Bhatri. These lead to rise in school enrolment and better learning engagement amongst the tribal children (Chhattisgarh Education Department, 2020).

**The Adivasi Academy in Gujarat:** The Adivasi Academy in Gujarat promotes the both preservation and teaching of tribal languages of Bhili and Rathwi. It develops local language learning material and trains teachers to integrate cultural narratives in education (Bhasha Research and Publication Centre, 2021).

**Tulu language implementation in Karnataka Schools:** In Karnataka, the regional language Tulu from coastal districts has been introduced in primary schools. It has

cultivated the sense of identity in the culture and subsequently enhanced the learning outcome of students (Karnataka State Department of Education, 2022).

**Multilingual Textbooks in Assam:** Assam has developed multilingual textbooks in Assamese, Bodo, and Karbi for primary schools in tribal areas. The books ensure linguistic inclusivity and are expected to aid better understanding by children from diverse linguistic backgrounds (Axom Sarba Siksha Abhiyan Mission, 2021).

**Integration of Balti and Ladakhi Language in Education:** Local NGOs in Ladakh, along with the local government, have begun to introduce Balti and Ladakhi in the teaching of primary education. An initiative that simultaneously creates literacy with the conservation of a vulnerable language (Ladakh Autonomous Hill Development Council, 2021).

**Meghalaya's Khasi and Garo Language Promotion:** Meghalaya has brought the Khasi and Garo languages into primary education so as to allow indigenous communities access to formal education whilst preserving their linguistic identity. The initiative has heightened school attendance (Meghalaya Board of School Education, 2021).

**Strategies for Effective Implementation**

Implementing multilingual education effectively requires well planned strategies that address linguistic diversity to ensure inclusive and equitable access to education by overcoming existing challenges.

**Policy Support:** it is necessary that strong government policies be backed with resource allocations and accountability frameworks. The NEP 2020 is a strong start, but its realization depends on working out its implementation (Government of India, 2020).

**Teacher Training:** The beginning is through immense investments in teacher-training programmes. In-service and pre-service training must integrate multilingual pedagogy and culturally responsive practice (UNESCO, 2017).

**Digital Adaptation:** Digital tools can bolster the democratisation of multilingual learning resources and provide modes of teacher training. Applications like Duolingo can help teachers and students with language acquisition and learning.

**Community Participation:** Involving local communities is vital for education to respect and embody their linguistic and cultural heritage. Community programmes in Odisha and Andhra Pradesh underscore the value of the collaboration (Mohanty et al., 2010).

**Partnership with NGOs and International Organizations:** Collaboration with NGOs, research institutions, and international organizations like UNESCO to gain technical and financial support for multilingual education.

**Conclusion**

*Multilingual education in India holds significant promises for establishing inclusive and equitable learning environments that can foster global citizenship. In this regard, the NEP 2020 has put down its roots firmly, but it would require thorough concentration*

*from the planning frame, the teachers, and the community to bring it to fruition. In India, by addressing challenges in the field of teacher education and resource development, linguistic diversity can be utilized as a tool for national development and global integration. Moreover, multilingual education is not a policy initiative alone; it is a necessary requisite for a linguistically diverse nation. The NEP 2020, along with earlier constitutional mandates, emphasizes the need for mother-tongue-based multilingual education (MTB-MLE) to promote inclusion, equity, and cultural preservation. Multilingual education uses a learner's home language as a resource in the curriculum, leading to enhanced cognitive development, improved accomplishment at school, and reduced dropout rates among disadvantaged communities. Yet, immense challenges hinder multilingual education implementation in India, such as-lack of competency among teachers, weak and inappropriate capacity building initiatives, insufficient teacher training, and lack of community participation. Thus, addressing such challenges would require targeted interventions, involving serious teacher education programmes, community engagement, and the drafting of multilingual teaching aids and digital resources. Additionally, multilingual education is global citizenship in a broad sense that demands cultural sensitivity and intercultural communication on the part of individuals and institutions.*

*Basically, India's accords with the United Nations Sustainable Development Goals, especially SDG 4 necessitates the integration of MLE across different levels of education system meant for facilitating different stakeholders.There is no denial of the facts that multilingual education of India is not just the pathway for inclusive learning; it is rather a model for the global education framework. Hence, by recognizing and exploiting its linguistic diversity and combating systemic issues, India can take significant strides towards building a more just and inclusive education system. In this way, India will develop the capability of making well-rounded citizens to contribute towards a globalized world and at the same time to uphold their cultural identities. While the ideal of inclusive multilingual education in India embraces a vision that sits comfortably between tradition and modernity, local identity and global citizenship, it can only reach its potential when policies, teachers, and communities work together to ensure that language is a bridge and not an obstacle to significant opportunity.*

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# Resilient Learning: Empowering Learners of Majuli with Indigenous Flood-Adaptive Knowledge of the *Mising* Community

**Moni Monjuri Phukan**[1]

**Abstract**

Majuli, a river island in Assam, faces significant challenges due to floods and land erosion affecting their economy, livelihood, socio-cultural, and educational spheres. The most significant impact is in education, where yearly flooding disrupts the functioning of government schools. Education is pivotal in shaping society's understanding of and response to climate change. The Mising tribal community inhabits Majuli along with other communities, whose indigenous flood-adaptive knowledge has helped them live in harmony with the river. By incorporating the flood-adaptive knowledge of the Mising community into the curriculum, we can equip future generations of learners with the tools and insights necessary to tackle the challenges posed by floods and other climate-related disasters. This review paper aims to explore the indigenous flood-adaptive knowledge of the Mising community. Additionally, it seeks to identify strategies for incorporating this knowledge and these practices into the curriculum. The goal is to enhance educational experiences and make education more relevant and resilient for learners in Majuli. The challenges faced by learners in accessing education during floods highlight the importance of incorporating the flood-adaptive knowledge of the Mising community into the curriculum. This integration ensures continuous education during and after floods and empowers students to become active participants in climate change mitigation and adaptation efforts.

**Keywords:** *Resilient Learning, Empowering, learners, Majuli, Indigenous, Flood-Adaptive Knowledge, Mising Community*.

## Introduction

The island of Majuli, located in the Brahmaputra River in Assam, India, is a unique ecosystem shaped by annual floods and constant erosion. The yearly flooding of Majuli

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cripples not only the everyday lives of the people living by the riverbank but also affects every sector of Majuli. The most severe impact is seen in the education sector, as recurrent flooding in Majuli leads many students to deliberately exclude themselves from education due to school closures or their conversion into relief camps for those affected by the floods (Kalita, 2016; The Economic Times, 2017). So, the learners in Majuli must be empowered through formal education with indigenous flood adaptive knowledge to become resilient and better prepared to face the challenges posed by changing environmental conditions and natural disasters. This knowledge will enable them to develop effective strategies for disaster management and build sustainable communities. The indigenous Mising community, constitutionally known as Miri Tribe, living in this flood-prone area, has developed a deep understanding of their environment through centuries of observation and adaptation (Guha, 2021). Their traditional ecological knowledge (TEK) is the foundation of their resilience, allowing them to coexist with the dynamic riverine ecosystem landscape (Tamuli, 2021). However, climate change has disrupted rainfall patterns and exacerbated erosion, challenging these age-old adaptive strategies. Despite these adversities, the Mising community continues to offer valuable insights into sustainable disaster risk reduction by emphasizing harmony with nature rather than conflict. Their approach underscores the importance of integrating indigenous knowledge into modern resilience frameworks. Understanding their flood-adaptive strategies can help develop effective support systems and interventions, and create a more resilient educational system that addresses the unique challenges faced by these children.

This review article utilizes secondary data to investigate the indigenous flood adaptive knowledge of the Mising Community in Assam and examines how this indigenous knowledge can be leveraged to enhance educational experiences and empower the learners in Majuli. By recognizing and incorporating their indigenous flood adaptive strategies can help create a more resilient educational system.

**The Indigenous flood adaptive knowledge of the Mising community and its relevance to flood adaptation**

The indigenous flood adaptive knowledge of the Mising community and its relevance to flood adaptation are evident in their traditional practices and architectural innovations. The Mising community's deep understanding of river behaviour and their ability to coexist with floods for centuries has led to the development of climate-resilient architecture and traditional ecological knowledge that can serve as a model for flood adaptation and nurturing resilience (Vijayaraghavan, 2021). The Mising community has developed adjustment mechanisms to cope with floods, including their house architecture, land use, and the use of traditional wooden rafts called *Ollung* to navigate floodwaters and reach relief camps (Pegu, 2018). Their houses, known as *Kare Okum* or *changghar,* are built on raised platforms to keep floodwaters at bay, and the elevation of the houses is adjusted based on the previous year's flood levels (Pegu, 2018). The houses have various levels for storage, including shelves made of bamboo called *Perab*and *Rabbong*, which are used to store food items such as fish, meat, and *Apong*

(rice beer). There is also a topmost shelf called *Kumbang* for storing vegetables and foods to go through the flooding periods. Additional storage space is created with bamboo mats below the ceiling of the room at the entrance for storing essentials and protecting them from floods. The space below the house or the open basement is used for livestock protection (Basu, 2022). The community uses wooden rafts called *Ollung* to wade through floodwaters and reach relief camps if needed. These rafts are secured under the stilt houses and are used for movement during floods. In addition to wooden rafts, the community has started using cheaper alternatives like banana boats (rafts fashioned out of banana trunks) and bamboo rafts for movement during floods (Guha, 2021). The Mising community's deep understanding of river behaviour and their ability to coexist with floods for centuries has led to the development of climate-resilient architecture and traditional ecological knowledge that can serve as a model for flood adaptation (Pegu, 2018). The Mising community's primary occupation is agriculture, and they have adapted their cropping patterns to the flood-prone environment. They have learned to live with the river and have found that the production of certain crops immediately after the flooding season is very good (Sharma, 2021). Despite the challenges posed by erosion and the changing landscape, the Mising community continues to adapt and innovate, emphasizing the importance of living with nature and improving community preparedness (Vijayaraghavan, 2021). Their traditional knowledge and practices offer valuable insights for climate change adaptation and mitigation, and their unique approach to flood adaptation showcases the potential of indigenous knowledge in addressing contemporary environmental challenges (Pegu, 2018).

**Empowering Local solutions and supporting children's Education in flood-affected regions**

The impact of flooding on education is a significant challenge faced by communities globally. It is worth noting that, during the recent flooding events, support for education was insufficient from the authority and district administrations in Majuli. This highlights an important opportunity for governments and their development partners to prioritize collaboration with local communities in addressing flood threats. Recognizing that community members often serve as first responders during such emergencies, can enhance resilience and response efforts (Munsaka et al, 2021). The state authority made special provisions for the communities for education promotion like Ashram/Residential schools, scholarships, SSA started seasonal sight-based schools, camps and bridge courses, Sakhar Shala. In Jammu and Kashmir, 'Seasonal Educational Schools' were established to provide pastoral children education; where teachers live in camps (Suri, 2014). In Andhra Pradesh government started 'School on Boat' for 189 fishermen's children and now shifted to 'River Bank School' (Lonkar & Kuldipake, 2021). UNICEF has started a program called 'School in a Box' to help children affected by floods. This program provides portable educational kits for kids aged 6 to 18. It is being used in model relief camps across Assam, including Majuli. UNICEF has set up child-friendly spaces in flood-affected regions to ensure safe environments where children can access education and psychosocial support. These spaces provide educational materials and trained staff to help children deal with flood trauma (UNICEF, 2022). The 'School in a

Box' initiative contributes to long-term recovery by offering educational resources in emergencies, aiding in the rebuilding of educational systems, and supporting children's overall development through continued learning. Authorities are also attempting to relocate students from flooded schools to safer nearby areas, but this option benefits only a small number of learners. However, it appears that there is a lack of visible initiatives taken for the flood-affected school-going learners from Majuli.

**Strategies to Enhance the Educational Experiences and Empower the Learners in Majuli with Indigenous Flood Adaptive Knowledge**

To enhance the educational experiences of learners with Indigenous flood adaptive knowledge, the following strategies can be implemented:

**Incorporating Indigenous knowledge into the curriculum:** The curriculum should be designed to include Indigenous knowledge, including flood adaptive knowledge of the Mising Community, to make it more relevant and meaningful to the learners (Baruah, 2018). This can be done by involving community elders and knowledge holders in the curriculum development process (UNESCO, 2008). A curriculum is a systematic plan for instruction in each subject area that describes the specific knowledge and skills to be taught at each grade level. According to Bruner, curricula should be designed to revisit basic ideas, gradually building upon them over time until students have a full understanding of these concepts (Bruner, 1977). Concepts related to flooding and flood adaptive knowledge should be integrated into the curriculum in a way that involves regularly revisiting the same educational topics throughout a student's education. Each time the content is revisited, the student gains a deeper understanding of the subject. This approach reinforces information over time and allows prior knowledge to inform future learning (Bruner, 1977). Integrate indigenous knowledge into subjects like geography, environmental science, and disaster management to emphasize its relevance by developing modules that showcase Mising flood-resilience strategies, including architectural innovations such as *changghars* and community preparedness methods. In Australia, First Nations people have successfully applied their knowledge of the Country to land management practices, including fire management, which has helped to manage forests, protect biodiversity, and prevent catastrophic bushfires (Macdonald et.al, 2022). Advocate for curriculum reforms that recognize indigenous knowledge as a valuable resource for climate adaptation, supported by frameworks like IPCC and UNFCCC guidelines (Commonwealth Foundation, 2023). In the developing world, Indigenous knowledge systems have been deployed for climate change adaptation, and this has implications for climate change education (Mbah et. al, 2021). The new discussions around indigenous knowledge highlight its potential to improve disaster risk reduction policies through integration into disaster education and early warning systems (UNISDR, 2008).

**Using local language as a medium of instruction:** The use of local language can help learners better understand and relate to the content being taught. This can also help to preserve the local language and culture (UNESCO, 2008). Implementing bilingual teaching and learning as a national policy like in Paraguay, allows for education in two

languages while respecting two cultures (Gynan, 2001). Language nest programs help children acquire fluency in indigenous languages through immersive, intergenerational language transference. Older speakers of the language take part in the education of children, acting as mentors and helping children use the target language in various settings. This approach is part of the revitalization of Indigenous languages and has been successful in early childhood education programs, such as *Te Kōhanga Reo* in New Zealand and *Pūnana Leo* in Hawai (Chambers et. al, 2020)

**Climate Resilient Infrastructure**: The climate-resilient infrastructure of the Mising community, known as *Kare Okum* or *Chang Ghar,* can be taught to learners as a vocational skill. This strategy could be expanded to enhance the construction of climate-resilient school structures in flood-prone areas. Compile detailed records of Mising practices, including changghors (stilt houses), Ollung (wooden rafts), and banana boats, to emphasize their adaptability to floods and erosion, while also highlighting the community's ability to predict flood levels and adjust house elevations accordingly (Bharadwaj, 2023).

**Community-based learning:** Community-based learning can be an effective way to enhance the educational experiences of the learners in Majuli. This involves learning through community engagement and participation, which can help bridge the gap between formal education and indigenous knowledge (Singh, 2019). To ensure authentic representation of practices, collaborate with Mising community leaders, NGOs, and local educators by inviting community members to schools for workshops or storytelling sessions about their experiences and adaptations. In Zimbabwe, indigenous knowledge systems have been utilized to empower community members to take leading roles in activities aimed at mitigating the impact of flooding (Mwamuka et al. 2018).

**Experiential learning:** Experiential learning involves learning through direct experience and reflection. This can effectively enhance the educational experiences of Mising community learners as well as learners from other communities in Majuli with Indigenous flood adaptive knowledge (Baruah, 2018). For example, learners can be taken on field trips to observe and learn from the flood adaptive practices of the community. Include practical activities such as building models of flood-resilient structures or crafting rafts to engage students.

**Collaborative learning:** Collaborative learning involves learning through group work and collaboration. *Escuela Unitaria*is a one-room, one-teacher style of schooling, used in some rural communities that incorporates indigenous or indigenous-heritage ways of learning (Brienen, 2011). It involves self-instruction, learning activities both inside and outside the classroom, and community involvement in the management of the school. This collaborative learning environment allows for the integration of cultural knowledge within the curriculum (Indigenous Education, n.d). Similarly, learners in Majuli can work in groups to research and document the flood adaptive practices of the community.

## Conclusion

In conclusion, the educational experiences of students attending school in Majuli are significantly affected by the annual occurrence of flooding (Saikia, 2013; Narah, 2021). However, the indigenous flood-adaptive knowledge of the Mising community offers valuable insights into traditional practices and architectural innovations that can serve as a model for flood adaptation and resilience (Pegu, 2018). To address these challenges effectively, integrating Indigenous knowledge into education through strategies like incorporating it into curricula, using local languages as mediums of instruction, and adopting community-based and experiential learning is essential. The Constitution of India, through Article 46, emphasizes the promotion of educational and economic interests for Scheduled Tribes while safeguarding them against exploitation (Vasishta, 2021). Since Majuli is a conglomeration of different tribal and non-tribal communities living together, it is important to ensure equal opportunities and the right to quality education for the students of the Island. The Right to Education Act 2009, which guarantees free and compulsory education for children aged 6 to 14 years, also plays a crucial role in fostering inclusivity and equity (Ministry of Education, GOI). Ensuring that all children on Majuli have access to quality education will not only empower them individually but also contribute to the overall development of the island community. Despite existing constitutional provisions and government efforts, there is an urgent need to critically assess the effectiveness of the current educational infrastructure and support systems in Majuli. This evaluation should focus on the availability of qualified teachers, the incorporation of Indigenous knowledge and local languages into the curriculum, and the adequacy of facilities to meet the diverse needs of students from various backgrounds (Thomas, 2022; Chetia, 2024). Additionally, there is a pressing need to shift towards experiential and community-based learning methods to create a resilient educational system that honours traditional practices while addressing the unique challenges faced by students of the flood-prone island (Mwamuka et. al, 2018; Singh, 2019). By acknowledging traditional knowledge alongside constitutional and legislative measures, we can create a resilient and culturally responsive educational system that meets the unique challenges of students in flood-prone areas and promotes sustainable development amid climate change (Guha, 2021; Thomas, 2022). By implementing policies that prioritize education for all, Majuli can work towards creating a more inclusive and equitable education for future generations

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# Educating Pastoral and Nomadic Communities: Tracing Educational Models and Approaches from different Countries

**Shiney Vashisht**[1]

**Abstract**

*The pastoral and nomadic communities are known for their migratory nature. This lifestyle choice is courtesy their traditional occupations and cultural behaviour. The formal educational setup always remains helpless in fulfilling their literacy needs as these communities tend to either migrate seasonally, or are always on the move. This leads to lesser enrolments and increased drop-outs. There are some established educational models catering to the needs of these communities, which are followed in different countries. This paper tries to formulate an understanding of these different educational models and approaches, with respect to their Indian counterparts. Best practices from across the globe are analysed to suggest practical, context-specific strategies for improving access, retention, and cultural relevance in education for nomadic and pastoral communities in India. The study ultimately aims to contribute towards developing a more inclusive educational framework that acknowledges mobility, respects indigenous knowledge systems, and empowers these historically marginalized groups through meaningful learning opportunities.*

***Keywords***: *Nomadic tribes, Pastoral communities, Migration, Drop-out, Ashram School, Mobile Primary Schools (MPS), Seasonal Educational Schools*

## Introduction

Formal education has been setup with an aim of educating the masses. This system provides education, which supports the mainstream learning goals. Often it is seen that the marginalised sections of our community get left behind in the pursuit of mainstreaming. This mostly happens, when the curriculum and the teaching- learning process neither reflects the cultural ideals of these communities, nor includes their language in the teaching learning process. Our country has so much of cultural and linguistic plurality, that it becomes difficult to include all the languages and cultural knowledge into the curriculum. For this purpose, school education was decentralised in the first place, so that the regional languages can be included into the classroom

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teaching learning process (Varghese, 1996, p. 359)[1].But this is not sufficient for the Pastoral, Nomadic or tribal communities. The ST literacy rate, according to Census 2011, is 58.96 percent as opposed to 72.99 percent National average (Ministry of Tribal affairs Statistics Division, Government of India, 2013)[2]. Most of the pastoral communities either don't have access to education due to their migratory nature; or they drop out because the education is not contextual or non-inclusive of their culture, traditions and language. These communities are always on the move and migrate at different paces (seasonally, yearly, or till their livelihood needs are getting fulfilled at one place) around the year, in order to practice their traditional livelihood. They use to be mostly hunters and gatherers, but lately they are indulging in agricultural activities, unskilled labour, and only few are able to follow their traditional livelihood. Because of the lack of structured livelihood and low earnings, they are not able to provide their children with good education, and these children end up working, in order to support their families(Puri, 2017)[3].

With the view of education of the tribals, the Government of India has taken up many measures- like provision of Ashram Schools, Seasonal Schools, Boarding Schools with free lodging facilities, RMSA and KGBV; along with financial support systems like- pre matric and post matric scholarships etc. But even though these provisions are there, the literacy levels among these communities is still very low.Similar issues were observed in the many Asian, African, European countries etc., where the population of indigenous communities is present. These countries have also made a number of efforts in order to include the indigenous knowledge of into the education system, along with providing mainstream educational values. The few successful ones- Episcopal Commission on Indigenous Peoples (Philippines), The Alaska Rural Systematic Initiative (United States of America), 'Place- based' Education Strategy for Maori Tribe (New Zealand), and Flexible approaches for Educating Nomadic Pastoralists of Ethiopia (Africa); have been discussed thoroughly in this paper, with an aim of extracting some strategies which can be utilised in the Indian education system.

In order to understand the Indian grassroot scenario, we need to discuss few researches which have studied the working conditions and success rate of Indian Models for tribal children.

**Educational Approaches for Pastoral and Nomadic Tribes in India: A Review**

In India, various initiatives have been introduced at both the central and state levels to address the educational needs of nomadic and pastoral communities. However, despite these efforts, structural challenges, lack of contextual curriculum, and poor implementation continue to hinder progress.

[1]Varghese, N. V. (1996). Decentralisation of educational planning in India: The case of the district primary education programme. *International Journal of Educational Development*, *16*(4), 355–365. Retrieved 06 July 2020, from https://doi.org/10.1016/s0738-0593(96)00058-2

[2]Ministry of Tribal affairs Statistics Division, Government of India. (2013). *Statistical Profile of Scheduled Tribes in India* . DAVP, Ministry of Information and Broadcasting, Government of India. Retrieved 06 July 2020, from https://tribal.nic.in/ST/StatisticalProfileofSTs2013.pdf

[3]Puri, C. (2017, May). *Improving Access to Quality Education for the Nomadic Mendicant & Entertainer Tribes: Status, Opportunities and Challenges*. Rajiv Gandhi Centre for Contemporary Studies, University of Mumbai & NEG-Fire, New Delhi. Retrieved 06 July 2020, from https://www.negfire.org/downloads/NT-DNT_report_final.pdf

According to Suri (2014)[1], Jammu and Kashmir have provisioned for mobile schools and seasonal schools for the education of its two Nomadic communities- **Gujjar and Bakkarwal**. These communities come under the category of Scheduled Tribe (ST), resides in all three major regions of the state (Jammu, Kashmir Valley and Ladakh), and are the third largest in population (with almost 69 percent of the total ST population) of the state. Gujjar community has mostly settled down or is semi- nomadic and have taken up land cultivation as their primary occupation; while **Bakkarwal community** mostly indulges in goat breeding. They migrate towards the higher altitudes of Himalayas during summer, because of which they are unable to get regular education in formal educational setup. Their literacy rate in Jammu and Kashmir is 37.5 percent, which is much lower than the national average literacy rate of tribals, which is 47.1 percent. In 1970's, the Government of Jammu and Kashmir started **Mobile Primary Schools (MPS)** for these communities, which had a provision of a travelling teacher along with the tribal group, so that wherever they go, education should be available to them. But this failed miserably, due to obvious logistics issues relating to teacher appointments. Another concept came into implementation in 2005 called **Seasonal Educational Schools.** The first school was setup in Poonch, operated by Zonal Education Office of J&K Education department. This setup has a provision of free textbooks, Rs. 100 per student form Teaching Learning Material (TLM), contractual teachers or Educational Volunteers employed for four months with a monthly stipend of Rs. 4000, and infrastructure in the form of Tents, blackboards, stationary, trunks etc. These have failed miserably, due to infrastructural issues (tents have not been replaced since 2005 and children are forced to take shelter under trees), no provision of mid-day meal (which can prove to be a good provision for attracting more children), irregular classes, irrelevant curriculum (with no cultural reference point for tribals), lack of teachers (teachers end up teaching multiple grades in a same setup) and corruption in the distribution of funds for TLM material and teacher's salaries.

In Maharashtra, the **Shiksha Rath (Education Chariot)** initiative was launched to cater to the children of **Dhangar nomadic communities**. This mobile school system operates from buses converted into classrooms that travel with the community. The program also tried to engage volunteers from within the tribe to improve cultural relevance, but teacher retention and consistent funding posed challenges (Kannabiran et al., 2017)[2].

In Rajasthan, the **Raika and Gadia Lohar** nomadic tribes face significant barriers to education due to seasonal migration. The **Lok Jumbish Project and Shiksha Karmi Project** made attempts to provide flexible education in rural and tribal belts through community involvement and para-teachers. While these programs improved enrolment

[1]Suri, K. (2014). Teaching the nomads in the wild: An analysis of seasonal educational schools for nomadic populations in Jammu and Kashmir. *Asian Journal of Multidisciplinary Studies*, *2*(3), 29–33. Suri, K. (2014). Teaching the nomads in the wild: An analysis of seasonal educational schools for nomadic populations in Jammu and Kashmir. Asian Journal of Multidisciplinary Studies, 2(3), 29–33. Retrieved 02 July 2020, from https://d1wqtxts1xzle7.cloudfront.net/33110818/215-873-1-PB.pdf?1393718146=&response-content-disposition=inline%3B+filename%3DTeaching_the_nomads_in_the_wild_An_analy.pdf&Expires=1593697725&Signature=UYVZnYgR7DhG4RfNcP976rEGlVvmkx3V92XEf4BuqkIZDoYzY00pEvSJbSbSRBpMtKKuy1V44togbsCgG0TlNtBBMAS8LNhuuu79ZCErqPhQLGklQEN~D~AuIhcgeymMUavoidiUctd8dvOgygo~dgOfRBGiHu7EBLrP9LIxMZgkJXFJYWTdfiu~0nlh5MO3Ba5X14qAOk-ZHu-T2H~yEnqLrcu90l7DaFMkXP8Lf77hI3A56JaAOJcmPEsrar9gWL1Ge9BvW1cFJaALrYZOezxaYIpuyk7VMEH7nJZCt1RdBQbzGN~v~5d1D0J-gz~6dnw4F8PzJTXv4~q9GRsz4A__&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA

[2]Kannabiran, K., Mishra, S. K., &Vinayan, S. (Eds.). (2017). SOCIO-ECONOMIC STATUS AND EDUCATIONAL ATTAINMENT AND CHALLENGES OF DENOTIFIED, NOMADIC AND SEMI-NOMADIC TRIBES. In *FINAL CONSOLIDATED REPORT*. Council for Social Development. https://www.csdhyd.org

temporarily, sustainability and integration into mainstream education remained weak(Ramachandran,2001)[1].

In Gujarat, **Rabari community**, which is a Nomadic community is struggling continuously due to the lack their failing socio-economic conditions and insufficient availability of Ashram Schools in their regions (Dyer & Choksi, 1997, p. 95)[2]. These communities, who were originally pastorals and herders, can no longer depend on their traditional livelihood modes for survival and social mobility. Also, lack of inclusion in the formal education has resulted in their lesser faith in schools. Another problem is that Gujarat has no state specific

**Madhya Pradesh** and **Chhattisgarh** have adopted strategies like **non-residential bridge courses** and **seasonal hostels**, especially for **Baiga** and **Sahariya** tribes. These short-term residential arrangements allow children to stay and study while their families migrate. However, these are often underfunded and fail to provide consistent learning outcomes (Salpekar et al., 2024)[3]

There is a provision of **Ashram Schools** for tribal students (Satyasavitri & Honakeri, 2018, p. 477)[4]have been one of the provisions initiated by the Government of India. These provisions also include- **Kasturba Gandhi Balika Vidyalaya, Eklavya Model Residential Schools, Vocational Training Centres, Pre-matric and Post-matric scholarships etc. for Tribal students**; supported by Ministry of Tribal Affairs and Ministry of Human Resources Development. These provisions were done in order to effectively address the low literacy levels of the tribals. Their poor economic background due to less income generating livelihood, is the reason that they can't afford the education of their children, and their children end up working, in order to support the family in any possible way. Isolation from the mainstream population, and the medium of instruction not being their mother tongue, are also important issues which have affected their attitude towards school education. Ashram schools were established in order to address these issues. These schools are boarding schools, with free hostel facilities. Free facilities are provided because these children come from very poor families, and cannot afford lodging. They are engaged in traditional activities, agricultural activities, and are taught through their mother tongues, with a gradual shift towards Hindi and English. They are provided with food, free stationary, uniforms, along with stipends (in order to empower them economically). The skill based vocational trainings are done in order to provide good livelihood scope. This programme has been relatively successful (where there is sufficient availability of such schools), but is still lagging behind in attracting more enrolments due to lack of awareness.

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[1]Ramachandran, V. (2001). Community Participation in Primary Education: Innovations in Rajasthan. *Economic and Political Weekly*, *36*(25), 2244–2250. http://www.jstor.org/stable/4410774

[2]Dyer, C., & Choksi, A. (1997). The demand for education among the Rebaris of Kutch, West India. *Nomadic Peoples*, *1*(2), 77–97. Retrieved 5 June 2020, from https://www.jstor.org/stable/43123527

[3]Salpekar, R., Kundal, N. S., VIVEKANANDA INSTITUTE OF PROFESSIONAL STUDIES- TC, & National Human Rights Commission. (2024). *AN EMPIRICAL STUDY ON THE WORKING OF ASHRAM SCHOOLS (BOYS AND GIRLS RESIDENTIAL) WITH SPECIAL REFERENCE TO TRIBAL AREAS LOCATED ON INTER-STATE BORDER AREAS OF CENTRAL INDIA (MAHARASHTRA, CHHATTISGARH AND MADHYA PRADESH)*. https://nhrc.nic.in/sites/default/files/Rashmi%20Salpekar%20Research%20study.pdf

[4]Satyasavitri , V. B., &Honakeri , P. M. (2018). Impact of Ashram Schools Issues and Challenges of Tribal Education in India. *International Journal of Scientific and Research Publications*, *8*(2), 475–478. Retrieved 03 July 2020, from http://www.ijsrp.org/research-paper-0218/ijsrp-p7459.pdf

## Educational Models in Different Countries

### Episcopal Commission on Indigenous Peoples, 1972 (Philippines)

The Philippines (Republic of Philippines),[1]a country in Southeast Asia, has about a hundred ethnic communities, with a population of almost twenty million people (The World Factbook, n.d.)[2].According to the 2010 census, 24.4% of Filipinos are Tagalog, 11.4% Visayans/Bisaya, 9.9% Cebuano, 8.8% Ilocano, 8.4% Hiligaynon, 6.8% Bikol, 4% Waray, and 26.2% as others (Philippine Statistics Authority, 2018).[3]These communities do not have much access to schools as they mostly live on the mountains and schools and healthcare is mostly in-accessible to them. Before 1989s, there weren't any specific crucial steps which were taken to address the educational status of the indigenous communities. The education imparted in the formal schools was mostly based on the principles of imparting basic literacy, with numeral knowledge and livelihood training for mainstream professions. The cultural and religious aspects of indigenous population were not addressed. The emphasis was mainly on civilising and assimilating them into the 'civilised' population (McCoy, 2009)[4]. This led to increased dropouts, comprehension issues, adjustment difficulties and discrimination; because of which these communities started raising their voices for their educational upliftment.

In order to address the educational needs of these communities, **Episcopal Commission on Indigenous Peoples (ECIP)** came into being in 1972, working directly with the indigenous population for their empowerment. The ideologies of these communities were kept in mind while designing the curriculum for these communities. The culture of the tribe, its history, the vast heritage of tangible and non- tangible elements it has, the value and belief systems were kept in mind while deciding the aims of education. Emphasis has been given to integrating the culture into to curriculum, learning by doing, experiential learning, associative thinking, community participation, understanding the different forms and expressions of knowledge (crafts, chants, body movement etc.), using crafts as teaching-learning means (learning maths through basket weaving), teaching through tribal languages, using community tools of assessment and evaluation, with the inclusion of community participants into the assessment and evaluation process etc. The evaluation process mainly revolves around the mastery of skills. The major idea is adjusting and evolving the educational calendar around the lifestyle patterns of the indigenous population. The **Ancestral Domain,** which is a part of the Indigenous people's own education system, is a crucial part of this educational setup. The entire learning space is the 'Ancestral Domain' and it can be *day-ay* (for males) or *ulog* (for females). According to this concept, 'Elders say' that children learn from

[1]Wikipedia contributors. (2020b, June 28). *Philippines*. Wikipedia. Retrieved 30 June 2020, from https://en.wikipedia.org/wiki/Philippines#Ethnic_groups

[2]*The World Factbook*. (n.d.). The World Factbook. Retrieved 30 June 2020, from https://web.archive.org/web/20150719222229/https://www.cia.gov/library/publications/the-world-factbook/geos/rp.html

[3]Philippine Statistics Authority. (2018, October). *Philippine Statistical Yearbook*. Retrieved 30 June 2020, from https://psa.gov.ph/sites/default/files/2018%20PSY_final%28revised%20asof26Mar19%29_0.pdf

[4]McCoy, A. W. (2009). *Policing America's Empire*. Amsterdam University Press. Retrieved 30 June 2020, from https://books.google.co.in/books?hl=en&lr=&id=QYj6WUGsRuEC&oi=fnd&pg=PR7&dq=Orientalism+of+the+Philippine+Photograph:+America+Discovers+the+Philippine+Islands,&ots=Ql7fhodB0F&sig=NGblVBi-UXhSTZFBBO0gL1AMAzI&redir_esc=y#v=onepage&q&f=false

anywhere and everywhere, be it fields, rivers, mountains, walking, hunting, gardening etc. (Asia-Pacific Human Rights Information Center (HURIGHTS OSAKA), 2008, pp. 1–3)[1]

**The Alaska Rural Systematic Initiative, 1995 (United States of America)**

The indigenous population of Alaska, whole are roughly eighteen percent of the general population (Alaska Federation of Natives, 2018)[2], are called its Natives, which includes Iñupiat, Yupik, Aleut, Eyak, Tlingit, Haida, Tsimshian, and a number of Northern Athabaskan communities (Wikipedia contributors, 2020a)[3]. These communities are defined by their language groups. These communities derive their lineage from Artic area, where their ancestor's practices and mastered the indigenous knowledge and skills of survival in the most challenging climate. This knowledge has been inherited by the natives of Alaska, who originally migrated to the current area thousands of years back. Since then, they have seen thee Arrival (colonisation) of Russians from Siberia in eighteenth century, then Britishers and later on Americans during nineteenth and twentieth century. The Russian colonisation resulted into their slavery, exploitation of natural resources, and degeneration of indigenous knowledge (Taylor & Foner, 2002, pp. 1–3)[4]. Also, Alaska Natives dis not have any treaties with United States to protect their subsistence rights (Ristroph, 2010, p. 51)[5]. Because of this colonisation situation, missionary culture of education, and non-inclusion of indigenous knowledge in formal education, their education suffered and dropouts increased. A need was felt for the paradigm shift in education, which could bring out a holistic knowledge system, recognising the indigenous knowledge in formal educational curriculum.

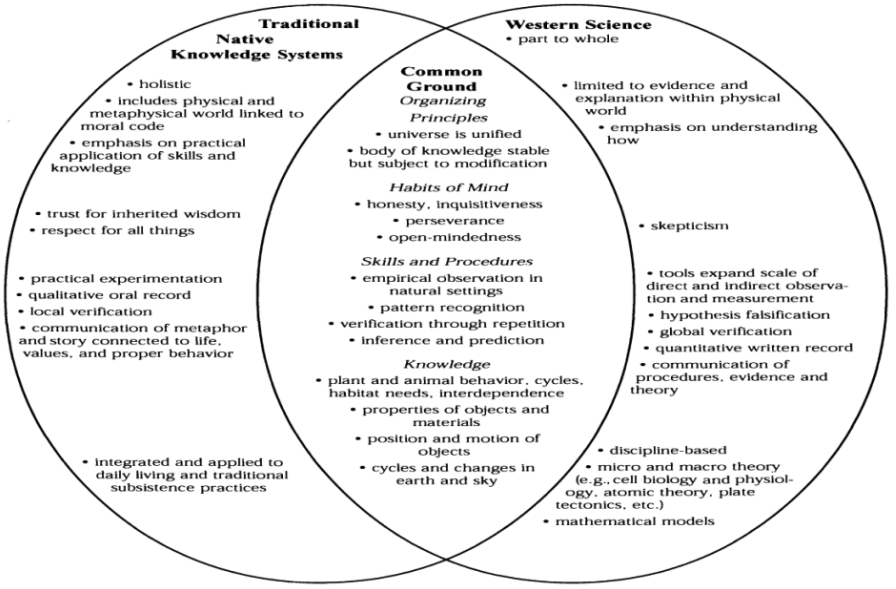


**Figure 1. Integrating Traditional Native Knowledge and Science** (Stephens, 2000b)[1]

[1]Asia-Pacific Human Rights Information Center (HURIGHTS OSAKA). (2008). *Human Rights Education in Asian Schools* (Vol. 11). Asia-Pacific Human Rights Information Center (HURIGHTS OSAKA). Retrieved 01 July 2020, from https://www.hurights.or.jp/archives/pdf/asia-s-ed/v11/13Indigenous%20Peoples%20Education%20-%20Philippines.pdf

[2]Alaska Federation of Natives. (2018, August 29). *Alaska Native Peoples*. Retrieved 02 July 2020, from https://www.nativefederation.org/alaska-native-peoples/#:%7E:text=According%20to%20the%202014%20Census,100%2C000%20residents%2C%20at%2012%25.

[3]Wikipedia contributors. (2020a, June 6). *Alaska Natives*. Wikipedia. Retrieved 02 July 2020, from https://en.wikipedia.org/wiki/Alaska_Natives

[4]Taylor, A., & Foner, E. (2002). *American Colonies: The Settling of North America, Vol. 1* (Revised ed.). Penguin Books.

[5]Ristroph, E. B. (2010). Alaska Tribess Melting Subsistence Rights. *SSRN Electronic Journal*, *01*(01), 47–90. Retrieved 02 July 2020, from https://doi.org/10.2139/ssrn.2648710

In 1995, the University of Alaska Fairbanks, started a ten-year educational development plan called- the Alaska Rural Systematic Initiative (AKRSI), along with Alaska Federation of Natives and the National Science Foundation (Barnhardt & Kawagley, 2005, p. 10)[1]. They started a network of 20 partner school districts, with176 rural schools with Native Alaska students, in comparison with the Non- Native Alaska students from 28 rural school districts. In this plan, they started introducing indigenous knowledge into all aspects of pedagogy, along with the conventional knowledge system. They tried to create a common middle ground by integrating indigenous concepts into formal education. Over the period of ten years, this was done and it was observed that the academic performance of the students has remarkably improved.

**'Place- based' Education Strategy for Maori Tribe, Early 2000s (New Zealand)**

Maori tribe is an indigenous tribe of New Zealand, which originated from Polynesia (made up of more than 1,000 islands scattered over the central and southern Pacific Ocean)[2], when they voyaged between 1320 and 1350. This tribe is known to have their own unique ethnic culture with distinguishing mythology, performing arts and language. During 17th Century, with the arrival of British Empire in mainland, these natives were institutionally marginalised because of their primitive characteristic. Subsequently, missionaries were appointed to help the Maori's to convert their faith, and to control their curriculum through Mission Schools (Walter et al., 2017, p. 356)[3].The mission of these schools was to make these communities more civilised and less primitive. Although Maori's had–'Ware Wangana', a traditional Maori ideology-based education system, but because of the quest of western education, which they believed that it could lead to capital gains, Maori's started enrolling their children in these Mission schools. This led to a state of alienation from their traditional ideology, political domination, marginalisation, stigmatisation and language attrition. This marked as a crucial move of assimilation these children into mainstream school system, in order to completely remove them from the demoralising influences of their village life. With increased migration to towns, more and more Maori children were getting enrolled in Mission schools, as compare to their enrolment in their Native schools. But this led to further creating education gap (Else, 1997)[4]between Maori and non- Maori students in terms of educational achievements and gaining employment post schooling. This was because the Maori's were not as socially and economically better off, as the non-Maori's. Their wants and need from the education system were different, the traditional occupations and forest land ownerships were hampered due to colonisation, leaving them alienated to the core. But certain steps have been recently taken to preserve their heritage and native education system, in order to empower them.

[1]Barnhardt, R., &Kawagley, A. O. (2005). Indigenous Knowledge Systems and Alaska Native Ways of Knowing. *Anthropology & Education Quarterly*, *36*(1), 8–23. Retrieved 01 July 2020, from https://doi.org/10.1525/aeq.2005.36.1.008

[2]Wikipedia contributors. (2020, June 22). *Polynesia*. Wikipedia. Retrieved 21 June 2020, from https://en.wikipedia.org/wiki/Polynesia

[3]Walter, R., Buckley, H., Jacomb, C., &Matisoo-Smith, E. (2017). Mass Migration and the Polynesian Settlement of New Zealand. *Journal of World Prehistory*, *30*(4), 351–376. Retrieved 21 June 2020, from https://doi.org/10.1007/s10963-017-9110-y

[4]Else, A. (1997, May). *Maori Participation & Performance in Education: A Literature Review and Research Programme*. Retrieved 24 June 2020, from https://www.educationcounts.govt.nz/__data/assets/pdf_file/0017/7505/else-maori-summary.pdf

A 'place- based' education strategy (an intervention strategy initiated by the New Zealand Government) in being implemented under the Tribal partnership scheme (Tomlins Jahnke, 2012, p. 149)[1]. This promotes place based or culture-based teaching-learning environment for the tribal children of New Zealand, with emphasis on learning traditional skills and knowledge. Most emphasis is given to Maori language teaching and Maori as a medium of instruction. So, now New Zealand has two systems of curriculum- The New Zealand Curriculum (in English medium schools) and *TeMarautanga o Aotearoa* (for Maori Medium schools)[2].Under this plan, focus was put on establishing early childhood centres and primary schools which specifically taught on the principles of Maori traditional knowledge based educational principles. The primary purpose was to restore the tribal culture, knowledge and civilisation, because this was not supported in the mainstream schools, which had led to identity conflicts and alienation among the Maori students. While curriculum development, consultations with the tribe leaders and members are done, so that geological links within education are established[3]. Community participation is ensured at each level, empowerment and awareness is emphasised. The cultural knowledge imparted in the classroom are embedded in the teacher training programme level, wherein pragmatic and constructive teaching-learning strategies are taught. The results (Provost, 2012)[4]have been very positive. From 1997 to 2007, Maori pass outs decreased formal most 35 percent to just 10 percent, but it increased from 30 percent to almost 55 percent (from 2003 to 2010)[5]. Research shows that the strategies adopted under this model of teaching learning have been very effective and are likely to be continually implemented for Maori literacy.

**Flexible approaches for Educating Nomadic Pastoralists of Ethiopia (Africa)**

Ethiopia has set a remarkable example of educating the vast population of almost 14 million (15 percent of total population Ethiopia)[6]Nomadic Pastoralists of its country through multiple approaches like- Alternative Basic Education, Tree Shade Schools, Mobile Schools, Q'uranic Schools, Multi-grade Model, and Distance Learning. The pastoral population of Afar, Soamli, Oromaia region and South Omo Zone of in the Ethiopian Southern Nations, Nationalities and Peoples' Region (SNNPR)[7].There is a **Formal Education** setup successfully running in Ethiopia, but this does not cater much to the needs of the nomadic pastoralists, who are marginalised, illiterate and very poor. Although the gross enrolment of Ethiopia is 77 percent (Federal Ministry of Education, 2007)[8], but the literacy percentage of these communities is barely 20 or 30 percent and the enrolment levels are also very low.

[1]Tomlins Jahnke, H. (2012). Beyond Legitimation: A Tribal Response to Māori Education in Aotearoa New Zealand. *The Australian Journal of Indigenous Education*, *41*(2), 146–155. Retrieved 24 June 2020, from https://doi.org/10.1017/jie.2012.28

[2]Wikipedia contributors. (2020a, June 11). *Education in New Zealand*. Wikipedia. Retrieved 24 June 2020, from https://en.wikipedia.org/wiki/Education_in_New_Zealand#Types_of_schools_by_funding

[3]Lee-Morgan, J., & Hutchings, J. (2016). *Decolonisation in Aotearoa*. Amsterdam University Press. Retrieved 24 June 2020, from https://www.nzcer.org.nz/nzcerpress/decolonisation

[4]Provost, L. (2012, August). *Auditor-General's overview*. Office of the Auditor-General New Zealand. Retrieved 24 June 2020, from https://oag.parliament.nz/2012/education-for-maori

[5]Provost, L. (2012, August). *Auditor-General's overview*. Office of the Auditor-General New Zealand. Retrieved 24 June 2020, from https://oag.parliament.nz/2012/education-for-maori

[6]U.S. Agency for International Development & PACT Ethiopia. (2008, February). *Education for Pastoralists: Flexible Approaches, Workable Models*. USAID. Retrieved 26 June 2020, from https://pdf.usaid.gov/pdf_docs/PNADN691.PDF

[7]Wikipedia contributors. (2020a, April 11). *South Omo Zone*. Wikipedia. Retrieved 26 June 2020, from https://en.wikipedia.org/wiki/South_Omo_Zone

[8]Federal Ministry of Education. (2007). *Education Statistical Annual Abstract 2005/6*. Education Management Information Systems, Ministry of Education. Retrieved 26 June 2020, from http://www.moe.gov.et/web/guest/statistics/-

The curriculum of formal schools does not take into context the culture and lifestyle of nomadic pastoralist. Also, these communities are mostly free during the evening hours or after they are done with their daily grazing responsibilities, and the teachers do not seem to be too willing for the evening setups. This led to the need for alternative approaches for teaching these communities. **Alternative basic education** is a model of non-formal education in which the students cover the primary education through the span of 3 years and then transition towards formal setup of education. This model is useful for non- nomadic pastorals, with focus on 7 to 14 years age group, but even adults attend the classes. **Tree Shade Schools**seems to be more of a practical and long-term solution for fulfilling the basic educational needs of these communities, with just a tree and a blackboard as a resource, but some obvious distractions follow (like-wandering attention of students, weather conditions etc.). This basically fulfils the educational needs of those communities whoare somewhat settled or are agro-pastrolist (UNCCD Publications, n.d.)[1].**Mobile Schools**seems to be another viable option for the nomadic communities as the school setup moves along with the tribe. But the issue arises when the teachers are not willing to move along. These teachers are mostly the educated members of the community itself, but they become more inclined towards settling down within the more populous and upper-class localities, as with education comes class mobility and class consciousness. Close monitoring also suggests that this model is not very effective because of its non- functionality and lack of systematic approach.

Another approach is- **Q'uranic Education,** which uses the Islamic Holy Book- Q'uran as its primer and imparts religious Islamic education to the vast population of Muslim communities. These are different from Madrasas, which are larger religious schools, while the former occurs outside the mosque and under makeshift – temporary (like a shade) setup. As these communities are mostly suspicious of the secular form of education, they are more invested into this system of non-formal education system. **Multigrade Model** has also become quite relevant in Ehiopia because it requires less infrastructure and teachers (Carr-Hill et al., 2005, pp. 1–3)[2].Because of the shortage of classrooms and teachers, multi- grade model seems to be a feasible model for teaching these communities. It has helped in reducing the dropout rate, but the lack of systematic curriculum and trained teacher has proved to be a hurdle in practicing this approach. **Distance Learning** is another approach which has been implemented in some regions of Ethiopia. This model mostly uses Radio as a medium of teaching- learning, which is available to 90 percent of pastoral population. It also uses mail correspondence, in which study materials are posted through mail and certification is provided after desired completion of coursework at the regional centres.

/asset_publisher/mlyNlPkHf57h/document/id/48290?inheritRedirect=false&redirect=http%3A%2F%2Fwww.moe.gov.et%2Fweb%2Fguest%2Fstatistics%3Fp_p_id%3D101_INSTANCE_mlyNlPkHf57h%26p_p_lifecycle%3D0%26p_p_state%3Dnormal%26p_p_mode%3Dview%26p_p_col_id%3Dcolumn-1%26p_p_col_count%3D2

[1]UNCCD Publications. (n.d.). *Sustainable land management technologies: agro-pastoralism | Knowledge Hub*. United Nations Convention to Combat Desertification Knowledge Hub. Retrieved 26 June 2020, from https://knowledge.unccd.int/knowledge-products-and-pillars/best-practices-sustainable-land-management/identifying-slm-5#:%7E:text=Definition,%2C%20nomadic%2C%20and%20transhumant%20communities.

[2]Carr-Hill, R. A., Eshete, A., Sedel, C., Souza, A., de Souza, A., International Institute for Educational Planning, Unesco, & African Development Bank. (2005). *The Education of Nomadic Peoples in East Africa*. African Development Bank. Retrieved 28 June 2020, from https://unesdoc.unesco.org/ark:/48223/pf0000140562

## Conclusion and way forward

The educational journey of pastoral and nomadic communities worldwide underscores the necessity of tailored, inclusive, and culturally sensitive approaches. Their migratory lifestyles, coupled with socio-economic vulnerabilities and linguistic diversity, create barriers that conventional education systems often fail to address. This study has highlighted various successful models from different parts of the world, each offering valuable lessons for enhancing the educational landscape for these communities in India.

In the Philippines, the Episcopal Commission on Indigenous Peoples (ECIP) emphasizes integrating tribal culture, traditions, and languages into education. By adapting the curriculum to the community's way of life, incorporating experiential learning, and fostering community participation in assessment and evaluation, the ECIP has successfully aligned education with indigenous practices. Similarly, Alaska's Rural Systematic Initiative (AKRSI) integrates indigenous knowledge systems into formal education to bridge the gap between traditional wisdom and modern academic pursuits. This model demonstrates how culturally responsive curricula and partnerships with local communities can significantly enhance educational outcomes.

The Maori tribe of New Zealand, through the 'Place-based Education Strategy,' underscores the importance of restoring traditional knowledge systems and using indigenous languages as mediums of instruction. This dual-curriculum approach, blending mainstream education with tribal principles, has helped preserve cultural heritage while improving educational achievements. Ethiopia's multi-pronged efforts—ranging from Tree Shade Schools and Mobile Schools to Distance Learning and Q'uranic Education—illustrate the importance of flexibility and adaptability in educational delivery, particularly for highly mobile populations.

The Indian context, while attempting to address similar challenges through initiatives like Ashram Schools, Kasturba Gandhi Balika Vidyalayas, and seasonal schools, reveals significant gaps in execution. Issues such as irrelevant curricula, inadequate infrastructure, lack of cultural inclusion, and insufficient teacher training hinder the effectiveness of these initiatives. The literacy rate among Scheduled Tribes remains significantly lower than the national average, underscoring the urgency of reform.

Lessons from global models can guide India in reimagining its educational strategies for pastoral and nomadic communities. Incorporating indigenous knowledge systems, like in Alaska, and aligning curricula with the communities' lifestyles, as seen in Ethiopia and the Philippines, can enhance relevance and retention. Place-based education principles from New Zealand can inspire localized curricula development, with active involvement from tribal leaders to ensure cultural authenticity and community ownership. Furthermore, leveraging technology for distance learning, coupled with innovative solutions like mobile schools, can bring education to the doorstep of migratory groups.

**Implications for the Indian context include:**

1. **Cultural Integration:** Curriculum reforms must reflect the cultural, linguistic, and traditional knowledge systems of tribal communities. Community participation in curriculum design and delivery can ensure relevance.
2. **Teacher Training:** Teachers must be sensitized and trained to adapt to the unique needs of pastoral and nomadic learners, including multilingual and experiential teaching methods.
3. **Infrastructure Development:** Investments in mobile and flexible schooling models, including technology-enabled learning, can ensure continuity in education during migration cycles.
4. **Policy Reforms:** Policy frameworks must prioritize decentralized education systems, encouraging local innovations tailored to the specific needs of these communities.
5. **Awareness Campaigns:** Building trust within the communities through awareness initiatives can encourage greater enrolment and reduce dropout rates.

In conclusion, education for pastoral and nomadic tribes must transcend the rigidity of conventional systems by embracing flexibility, cultural inclusivity, and local empowerment. Drawing from global best practices while addressing India's unique challenges, a transformative educational model can be developed—one that not only preserves indigenous heritage but also equips these communities for a sustainable, dignified future. Such a model holds the potential to uplift historically marginalized groups and enrich the broader educational landscape of the nation.

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# Visionaries of Education: A Critical Reflection on the Legacy of Madan Mohan Malaviya and Zakir Husain in the Light of NEP 2020

**Sapna Raj**[1]

**Abstract**

*Pandit Madan Mohan Malaviya (1861–1946) and Dr. Zakir Husain (1897–1969) were pioneering educationists whose visions for Indian education continue to shape the country's educational framework today. Malaviya, the founder of Banaras Hindu University (BHU), envisioned education as a transformative tool for social justice, equality, and holistic development. His philosophy emphasized moral grounding, character development, civic responsibility, and the integration of traditional Indian values with modern scientific knowledge. Similarly, Zakir Husain, a prominent advocate of secular education, emphasized the need for inclusive, value-based education to promote national unity, social solidarity, and intellectual growth.*

*This paper explores the relevance of Malaviya and Zakir Husain's educational ideals within the context of India's National Education Policy (NEP) 2020. Both philosophers envisioned education as a tool for creating culturally rooted, morally upright, and globally competent individuals, sharing common objectives with NEP 2020, such as inclusive education, lifelong learning, and the integration of Indian Knowledge Systems (IKS) with modern pedagogy. A comparative analysis highlights the alignment between their visions and NEP 2020, focusing on interdisciplinary education, value-based learning, and holistic development.*

*The paper further examines the revamped Malaviya Mission Teacher Training Programme (MMTTP) and the role of teacher training in addressing gaps in education. This program, designed to promote continuous professional development, reflects the shared commitment of Malaviya and Zakir Husain to cultivating well-rounded educators who can impart both intellectual knowledge and ethical values. Despite challenges such as infrastructural limitations and the resistance to integrating traditional knowledge with modern educational needs, NEP 2020 presents a unique platform to incorporate the educational philosophies of both leaders into the current educational landscape.*

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*By employing content analysis of secondary data sources, including policy documents, articles, and books, the paper underscores the enduring significance of Malaviya and Zakir Husain's educational philosophies. It demonstrates how their principles continue to influence India's educational development, fostering a system that nurtures intellectual growth, ethical consciousness, and social responsibility while ensuring inclusive and equitable education for all.*

***Keywords:*** *NEP 2020, Educational Philosophy, Social Justice, Teacher Training, Moral Education, Indian Knowledge System, Lifelong Learning.*

## Introduction

India's educational environment has been significantly shaped by the educational ideas of Zakir Husain (1897–1969) and Pandit Madan Mohan Malaviya (1861–1946). Malaviya and Husain were both visionary educators who prioritized the overall growth of people and sought to create an educational system that integrated traditional values with modern understanding. Their ideas, which are firmly rooted in India's socio-cultural and ethical framework, are still in line with the objectives of the National Education Policy (NEP) 2020, which aims to create an innovative, inclusive, and culturally aware educational system.

Madan Mohan, Pandit the founder of Banaras Hindu University (BHU), was a fervent supporter of incorporating civic duty, patriotism, and moral rectitude into the classroom. In addition to teaching scientific information, Malviya envisioned a holistic educational system that rooted people in Indian ethical and cultural values. His approach to education placed a strong emphasis on diversity and accessibility with the goal of giving students from all socioeconomic backgrounds equal opportunity. NEP 2020's focus on advancing social justice, Indian identity, and ethical foundations is indicative of this vision and is consistent with Malaviya's methodology. Malaviya's lasting impact is demonstrated by the reintroduction of the Malaviya Mission Teacher Training Programme (MMTTP) under NEP 2020, which aims to provide teachers the academic excellence and cultural competency they need to create a society that is both morally and internationally capable.

One of the founder of Jamia Millia Islamia and renowned educationist Zakir Husain had a similar dedication to education as a way to develop people's character as well as their intellect. Inspired by Mahatma Gandhi's Nai Talim, he promoted work-centered education that combined manual and intellectual abilities to foster independence and dignity in the workplace. In order to create well-rounded, socially conscious people, Husain's educational system placed a strong emphasis on the growth of the head, heart, and soul. With an emphasis on intellectual curiosity and professional pride, his contributions to teacher preparation complement the NEP 2020's emphasis on

experiential learning, vocational education, and the incorporation of local knowledge systems.

An educational system that is firmly anchored in India's cultural legacy and equips pupils to meet the difficulties of a globalized world was made possible by the educational ideas of both Malaviya and Husain. This paper examines their educational ideologies critically and considers their applicability in light of NEP 2020. This essay seeks to demonstrate how Malaviya and Husain's views continue to impact the continuing reform of India's educational system and aid in the creation of a society that is inclusive, moral, and capable of navigating the world by examining their tenets.

Malaviya promoted **hands-on learning and community involvement** in his vision for agricultural education and self-sufficiency, which **Chand and Mishra (2015)** analyze. He led the way in research at BHU that included collaborations with foreign organizations and farmer participation. This goal is being carried out today by NEP 2020's emphasis on IKS and vocational education, which re-engages communities in agriculture, sustainable farming, and indigenous ways. By addressing contemporary ecological issues and advancing food security, the inclusion of IKS encourages the study of traditional agricultural knowledge, such as organic farming methods, sustainable water management, and soil preservation.

The Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) Launched in 2015, is an institutional acknowledgement of Malaviya's goal. In line with Indian principles emphasis on IKS, this mission focuses on curriculum development, teacher training, and pedagogical innovation (Department of Higher Education, 2015). In order to **promote cultural pride and ethical growth,** PMMMNMTT encourages educators to integrate Indian history, culture, languages, and values into their lessons. National Education Policy (NEP) 2020 emphasizes building motivated and capable faculty through continuous professional development. Existing initiatives like UGC-HRDCs and PMMMNMTT have been pivotal in faculty training, but the re-launched Malaviya Mission Teacher Training Programme (MMTTP) aims to further enhance teacher capacity. It focuses on integrating Indian values and ethos into higher education, transforming teaching, research, and institutional growth. Simultaneously, NEP 2020's incorporation of IKS into teacher preparation aims to introduce teachers to India's ancient teaching methods, such the Gurukula system, and adapt them for the modern classroom, encouraging the preservation of Indian knowledge while incorporating new abilities.

Malaviya's contribution to fostering a feeling of **moral obligation and patriotism** inside the higher education system is further highlighted by **Somaskandan (2013).** With its emphasis on learning in harmony with environment, respect for all life, and the practice of self-discipline, NEP 2020 seeks to maintain the principles of Malaviya's educational philosophy, which was based on service to society and loyalty to the country. In order to create moral leaders and responsible citizens, IKS helps students understand the importance of interconnectedness, a concept that is fundamental to ancient Indian philosophies.

A historical perspective on Malaviya's vision as a political leader and educational reformer is given by **Tewari (2013).** His commitment to educational empowerment and his support of **Swadeshi and Swaraj** are in line with the NEP's inclusion of IKS as a component of the broader goal of Atmanirbhar Bharat (self-reliant India). NEP 2020 encourages economic independence, sustainability, and innovation based on indigenous knowledge and customs by integrating aspects of IKS. In order to create a comprehensive understanding that guides both individual and societal development, students are encouraged to investigate classical Indian concepts in areas like architecture (Vastu Shastra), ethics (Dharma), health (Ayurveda), and governance (Raj Dharma).

## Zakir Husain

Zakir Husain (1897–1963) was a visionary leader and one of the founder of Jamia Millia Islamia. He was honored with India's highest civilian award, the Bharat Ratna.Husain was a humanist philosopher who believed education should focus not only on acquiring knowledge but also on nurturing individuals' inner values. He emphasized that education should develop the intellect, emotions, and spirit, ensuring the overall growth of individuals.

Husain introduced the idea of work-centered education, which prioritized practical, skill-based learning. For example, the B.Ed. program at Jamia Millia Islamia includes unique features like craft education, which differs from other universities' programs. This approach reflects his belief in the importance of hands-on learning and self-reliance.

Husain sought to incorporate Gandhiji's ideas into practical education, drawing inspiration from Mahatma Gandhi's "Basic Education" or "Nai Talim" philosophy. The goal of basic education was to focus on making learning self-supportive. In order to ensure people's total development, he underlined that education should foster the development of the intellect, emotions, and soul. Work-centered education, which placed an emphasis on hands-on, skill-based learning, was first proposed by Husain

Focusing on skills and productive work connected to the child’s environment. Gandhi believed that providing jobs for all youth in India was challenging, so education should equip students with skills for self-reliance. Husain developed two guiding principles for education: the principle of work and social orientation. He played a key role in the Wardha Educational Conference and served as its president. The conference passed four **key resolutions:**

1. Education should be free and compulsory for children aged 7–14.
2. Instruction should be provided in the mother tongue.
3. Education should centre on manual and productive work, closely connected to the child’s surroundings.
4. Teachers should be adequately paid.

The committee placed a strong emphasis on correlational education, which links several courses to the main skill. Gandhiji's principles were given real-world application by Zakir Husain, who became a fervent supporter of basic education.

**Madan Mohan Malaviya**

Banaras Hindu University (BHU) was founded by the well-known Indian educator Madan Mohan Malaviya (1861–1946). Reviving the Indian Knowledge System while integrating contemporary education was his ambition. He felt that everyone should have access to education, regardless of social or economic background, and that it should enable people to make contributions to society. Malaviya believed that education was a means of fostering social change, personal development, and the establishment of an equitable and just society. Malaviya's profound knowledge of learning and its vital function in forming people and communities is reflected in his contributions to education. It is crucial to consider Malaviya's educational theories and their applicability to the possibilities and problems facing education today as India executes the National Education Policy (NEP) 2020.Through historical, philosophical, and policy viewpoints, this paper investigates the educational ideologies of Zakir Husain and Malaviya. It demonstrates how their ideas complement NEP 2020's objectives and provides insightful information on educational reform and advancement in India today.

**Educational Thoughts of Zakir Husain and Madan Mohan Malaviya**

Zakir Husain and Madan Mohan Malaviya, two iconic visionaries, offered educational philosophies that continue to resonate with contemporary goals like those outlined in NEP 2020. Both leaders emphasized the need for education to be inclusive, culturally rooted, and focused on the holistic development of individuals, though their approaches reflected their distinct experiences and inspirations.

After earning his doctorate in Berlin, Zakir Husain introduced the 'Project Method' of learning, emphasizing practical knowledge and hands-on experiences inspired by educational pioneers like Edward and George Kerschensteiner. His approach centered on connecting classroom instruction with real-world applications, encouraging students to develop skills, protect cultural legacies, and discover their inner selves. For Zakir Husain, education was about shaping well-rounded individuals committed to serving society and future generations. He believed that teachers were the custodians of society's highest ideals, playing a pivotal role in creating a free and emancipated community. His vision aligns closely with NEP 2020, which advocates experiential learning and value-based education.

Similarly, Madan Mohan Malaviya envisioned education as a tool to empower society, combining traditional Indian principles with modern advancements in science and technology. A staunch advocate for inclusivity, he championed women's education and sought to break down barriers of caste and gender in accessing education. Malaviya emphasized character development, moral education, and social responsibility, famously stating, "A teacher is the greatest servant of society." His dedication to integrating Indian culture and spirituality with progressive ideas earned him widespread

admiration, with Mahatma Gandhi likening him to the Ganga River, symbolizing purity and fulfilment.They believed in nurturing intellectual curiosity while upholding cultural and moral values. Their philosophies emphasize the need for education systems that foster holistic growth, inclusivity, and societal advancement, offering timeless guidance that aligns seamlessly with NEP 2020's vision of creating a culturally rooted, globally relevant, and ethically driven education framework.

**Educational Thoughts of Zakir Husain and Madan Mohan Malaviya on Teacher Training**

Both Madan Mohan Malaviya and Zakir Husain stressed the vital role that educators play in influencing students' and society's futures, but their perspectives on teacher preparation combine contemporary teaching methods with moral and cultural principles.

In order to prepare teachers to handle real-world issues in diverse classrooms, Zakir Husain thought that teacher preparation programs should integrate theory and practice. He emphasized the need of teachers having a strong sense of duty and respect for their position in influencing the next generation, as well as professional pride. In order to motivate and successfully mentor pupils, he also emphasized the value of intellectual curiosity, where teachers cultivate a sincere love of learning, remain inquisitive, and keep up to date on the latest developments.

Zakir Husain and Malaviya emphasized that teacher preparation involves more than simply teaching technical skills; it also involves cultivating traits that allow teachers to motivate, mentor, and encourage their pupils. Their concepts are still very much in line with the goals of NEP 2020, which asks for teacher preparation that combines contemporary pedagogy with cultural awareness.

**Relevance of Educational Thoughts of Zakir Husain and Madan Mohan Malaviya in the Context of NEP-2020**

The educational concepts of Madan Mohan Malaviya and Zakir Husain are still very applicable to the NEP-2020 agenda. Task-oriented, value-based teacher preparation that combines theory and practice is crucial, according to Zakir Husain. NEP-2020's emphasis on educators' ongoing professional development reflects his belief that, although certain traits of a good teacher are natural, others can be developed via disciplined training. His support of experiential, hands-on learning is quite similar to the policy's focus on promoting cultural understanding and tying classroom instruction to real-world applications. NEP's goal of developing well-rounded people is largely founded on Husain's views on value-based education and encouraging intellectual curiosity.

In a similar vein, Madan Mohan Malaviya's dedication to universal access, comprehensive education, and fusing traditional values with contemporary approaches is highly compatible with NEP-2020. The policy's emphasis on ethics, inclusion, and developing self-reliance skills is echoed by his emphasis on character development, moral education, and practical knowledge. NEP's objective of developing an inclusive

and socially conscious educational framework is in line with Malaviya's vision of utilizing education as a vehicle for social revolution, tackling issues like gender inequity and casteism. His conviction that ethnic roots and global viewpoints should be blended continues to influence India's modern educational system.

**Ethics and Human Values in the Educational Philosophy of Zakir Husain and Madan Mohan Malaviya**

Madan Mohan Malaviya and Zakir Husain promoted human values and ethics as the foundation of education and behavior. In his life, Zakir Husain shown a strong sense of responsibility and altruism. According to Rajmohan G. (2000), an incident in 1933 demonstrates his steadfast dedication to his duties. Husain decided to keep giving out candy to kids after learning of his three-year-old daughter's death during a school function, putting their joy ahead of his own sorrow. This moving deed demonstrates his strong sense of ethical responsibility and emphasizes his conviction in striking a balance between his duty to society and his love for his family. His wife's remembrance of his sorrow made it clear that, despite his calm appearance, he was experiencing intense personal anguish.

Inspired by works such as the Bhagavad Gita and Srimad Bhagavatam, Madan Mohan Malaviya put a high significance on moral and ethical principles that are ingrained in Indian cultural and spiritual traditions. Institutions that prioritized character development in addition to academic success were established as a result of his concept of value-based education. Malaviya gained respect from people of all socioeconomic and political persuasions for his secular views on morality and humanity as well as his commitment to nation-building. He embodied honesty and humility and was well-known for his pledge to refrain from taking gifts for personal reasons. Jawaharlal Nehru accurately referred to him as "Mahamana," a moniker that reflected both his exceptional dedication to moral values and his magnificence as a human being.

**Religion and Science in the Vision of Zakir Husain and Madan Mohan Malaviya**

When Zakir Husain was appointed President of India, he had an insightful conversation with a journalist that demonstrated his deep awareness of secularism. Husain responded, "Secularism is achieved only when you do not know my religion," to the journalist's claim that his presidency was a "victory for secularism" due to his religious affiliation. His conviction that genuine secularism emphasizes equality and merit above religious identification is emphasized by this potent remark. Husain also underlined the significance of keeping politics and religion apart, a point that is still very pertinent today. He used a similarly practical approach to teaching science, encouraging pupils to develop the habits of precise observation and experimental validation. In his view, science should benefit mankind by using its principles to improve society in addition to aiding in the understanding of natural events.

Madan Mohan Malaviya believed that religion and science could coexist peacefully since they were complimentary forces. He believed that scientific knowledge must be shared widely if India was to advance, especially in combating poverty and empowering the

populace. Malaviya saw education as a means of fusing moral principles with professional knowledge. His goal was to provide a well-balanced framework that promoted holistic growth by integrating ethical ideals and scientific developments. Both leaders emphasized how education has the power to improve society, close gaps in knowledge systems, and foster a culture of honesty and service.

**Educational Models**

In March 1938, Zakir Husain presented a committee report outlining the Wardha Scheme of Basic Education, the first comprehensive National Basic Education Scheme. In order to give students a comprehensive and fulfilling education, this educational approach placed a strong emphasis on the holistic development of the heart, mind, and soul. The scheme integrated practical skills and moral values into the curriculum, encouraging students to contribute to societal progress (Bano, 2019).

Instead of restricting students to industrial or commercial labor, Madan Mohan Malaviya's educational system placed a higher priority on developing competent people who could lead and conduct scientific research. His paradigm, which was based on the ideas of Sanatan Dharma, balanced scientific discoveries with Indian cultural values. Malaviya envisioned an educational system that fostered a feeling of ethical duty and patriotism in addition to equipping people with professional knowledge (Singh, 2017).

**Nationalism**

Secular nationalist Zakir Husain made significant contributions to the development of contemporary India. He committed his life to helping the nation because he thought that education was crucial to its advancement. A vision of an inclusive country where education served as a unifying factor for societal and cultural development was encouraged by his secular ideas (Bano, 2019).
In order to achieve independence, Madan Mohan Malaviya stressed the value of communal peace. He promoted legislation guaranteeing this protection because he saw an India where all citizens, regardless of background, felt safe. Because of his receptiveness to many viewpoints, Malaviya was able to incorporate concepts from different cultures, choosing the most beneficial components to establish a welcoming and peaceful national ethos (Singh, 2017).

**Education that Is Inclusive**

In order to promote social cohesion and national unity, Zakir Husain's educational philosophy aimed to eradicate caste and class divisions. His theories helped to unite society by bridging the divides between the affluent and the poor, between urban and rural areas, and between manual and intellectual labour.

Madan Mohan Malaviya promoted universal access to education for people of all genders, castes, creeds, and religions. The National Education Policy (NEP-2020), which highlights comprehensive and equitable education as a right for all citizens, is in strong agreement with this goal. India's commitment to Sustainable Development Goal 4 (SDG 4), which seeks to guarantee inclusive, egalitarian, and high-quality education for all by

2030, is in line with Malaviya's values. His legacy serves as motivation for initiatives aimed at giving every person the chance to grow, develop, and make a significant contribution to the country.

**Curriculum**

The "Basic Education" program, which prioritized an integrated curriculum including a range of disciplines like vocational skills, native language, mathematics, social studies, general science, art, music, and Hindustani, was a manifestation of Zakir Husain's educational philosophy. He also focused on short- and long-term teacher training programs that were created to meet the goals of the scheme. Husain's framework outlined objectives and suggested strategies for incorporating these principles into regular teaching procedures, resulting in a strong and forward-thinking educational system (Bano, 2019).

Madan Mohan Malaviya's educational philosophy placed a strong emphasis on striking a balance between tradition and modernity. He promoted making respect for others, honesty, integrity, and social responsibility fundamental components of the curriculum. In order to ensure that students were ready for difficulties in the real world, his vision went beyond academic knowledge to incorporate internships, vocational training, and practical skills. Malaviya also placed a high priority on cultural education, encouraging pride in the country by studying literature, art, and history. His approach to education placed a strong emphasis on cultural appreciation, physical health, and spiritual development, giving students a well-rounded education (Tiwari, 2021).

**Institutions Founded**

Zakir Husain was a key figure in the establishment and growth of Jamia Millia Islamia (JMI), a renowned university founded in 1920 alongside other intellectuals and freedom fighters, in response to the British colonial educational system, which was seen as out of touch with India's cultural and national needs. He saw Jamia as a place that would promote a fusion of Indian values and modern education, fostering nationalism, social justice, and unity among diverse communities. His educational philosophy was based on inclusivity, vocational training, and the preservation of Indian culture while embracing contemporary scientific knowledge.

Zakir Husain stressed that education should promote secularism and national unification by bridging caste, religion, and regional divides. He thought that Jamia ought to be used as a template for an educational system that would contribute to the creation of a cohesive country. In his capacity as vice chancellor, he played a key role in growing Jamia's academic offerings and making it a premier educational institution. Under his direction, Jamia developed into a center for progressive reforms, intellectual freedom, and studies that combined traditional values with contemporary teaching methods. India's dedication to inclusive and transformative education is exemplified by Zakir Husain's vision for Jamia Millia Islamia, which continues to be a pillar of the country's educational system.

Banaras Hindu University (BHU), founded in 1916 by Pandit Madan Mohan Malaviya, is a remarkable example of his vision for inclusive, comprehensive, and values-based education. Malaviya envisioned BHU as a center that would successfully blend India's ancient knowledge systems with contemporary scientific education, creating a harmonious blend of technological advancement and cultural legacy. The institution was founded with the intention of educating the nation, and inclusion was a key component of Malaviya's program, ensuring that education was accessible to all societal segments, particularly women and underprivileged groups.

The institution's curriculum was designed to be multidisciplinary, fusing modern disciplines like science, technology, medicine, and engineering (now known as STEM/STEAM) with traditional ones like philosophy, Sanskrit, and Vedic studies. This approach aimed to promote comprehensive personal and societal development while instilling moral and spiritual values in students. With its state-of-the-art facilities, research centers, libraries, and residence halls, BHU's residential model offered first-rate infrastructure that promoted learning and creativity. It was also one of the first institutions to narrow the knowledge gap between Western scientific techniques and traditional Indian wisdom, offering students the tools they needed to confront global concerns while keeping their cultural origins.

BHU is a great example of how tradition and modernity can coexist in education, upholding Malaviya's principles to this day. With its long history, the university is a timeless model for inclusive and comprehensive learning, which aligns with the tenets of the National Education Policy (NEP) 2020. BHU has contributed significantly to India's national development over the years by helping to shape leaders and thinkers in a variety of sectors, encouraging social changes, and pioneering research and innovation, particularly by supporting women's education and the advancement of marginalized communities.

**Aim of Education by Malaviya and Zakir Husain**

The belief that education is a comprehensive process that seeks to develop people who are ethically grounded, socially responsible, and committed to the growth of the country is the commonality between Madan Mohan Malaviya and Zakir Husain's educational philosophies. According to both visionaries, education should encompass values, ethics, and practical skills that are essential for creating a robust, self-sustaining society outside of the classroom.

Malaviya believed that moral and national development were closely related to the purpose of education. He placed a strong emphasis on developing empathy, social responsibility, and integrity because he thought that education should shape people into moral beings who are ready to serve their communities and the country. His concept was anchored in the idea of a balanced education—one that merged Western scientific knowledge with the traditional values of Indian culture.

The goal of this blending of traditional and modern education was to create people who could add to India's cultural and intellectual heritage. His belief that education should be

available to everyone, regardless of caste, creed, or socioeconomic background, led him to found Banaras Hindu University (BHU), promoting equality and inclusivity in educational opportunities. Moreover, Malaviya considered education as a vehicle for nation-building, pushing students to be not just academically adept but also patriotic, eager to serve their country with passion and pride.

In addition to his strong commitment to national development, Zakir Husain concentrated on developing an educational system that supported students' intellectual, emotional, and social development. The Wardha Scheme of Basic Education, which placed a strong emphasis on experiential learning, vocational training, and practical skills, was an embodiment of his vision. According to Husain, education should foster ethical principles, scientific investigation, and logical thinking in order to produce people who are not only competent but also socially aware and sympathetic.

Similar to Malaviya, Husain valued inclusion highly and believed that education might help dismantle social barriers like caste and class divisions and promote a feeling of unity and national unification. Husain also believed that teachers were essential to this process of change, and he promoted a strong system of teacher preparation to guarantee that instructors were prepared to mentor students' moral and intellectual growth.

Husain and Malaviya both believed that education should develop well-rounded people who are able to learn new things throughout their lives. They held that education should foster skills that are vital in a world that is always changing, such as curiosity, flexibility, and a feeling of responsibility. Their common vision is mirrored in the National Education Policy (NEP) 2020's modern educational objectives, which emphasize students' overall development while advancing inclusive, egalitarian, and high-quality education. An educational system that strikes a balance between academic excellence and moral, social, and national responsibility is still being inspired by Malaviya and Husain's combined integrated approach to education.

**Challenges and Opportunities in Reviving Malaviya and Zakir Husain Vision**

**Challenges:**

**Balancing Tradition with Modernity**

Balancing the traditional values emphasized by Madan Mohan Malaviya and Zakir Husain with the demands of a rapidly evolving global educational landscape presents a significant challenge. Malaviya’s focus on Indian Knowledge Systems (IKS) and cultural heritage, along with Zakir Husain's advocacy for practical and vocational education, both demand a careful integration of modern and traditional knowledge. The worldwide emphasis on competency-based education complicates this integration. For example, while Malaviya’s ideology emphasizes the study of Sanskrit and Vedic sciences alongside modern education, the existing curriculum needs to expand to include contemporary disciplines like coding, artificial intelligence, and technology. Bridging this divide needs a

reframing of how ancient knowledge may coexist with new capabilities in a way that educates students for the problems of the future, while preserving cultural heritage.

**Infrastructure and Teacher Training Gaps**

The lack of infrastructure and teacher preparation is a major obstacle to achieving Malaviya and Zakir Husain's educational goal. The availability of materials to enable such an integrated curriculum is essential to Malaviya's goal for a well-rounded education that incorporates both traditional knowledge and contemporary science. However, information and communication technology (ICT), which is crucial for both traditional and modern teaching methods, is still lacking in many rural schools.

It is imperative that instructors receive training on how to properly integrate IKS with modern courses in a multidisciplinary curriculum. Zakir Husain's emphasis on teacher preparation programs highlights the need for educators to possess the abilities needed to promote ethical and intellectual growth. Infrastructure investments, teacher professional development, and focused capacity-building programs under frameworks such as the National Curriculum Framework for School Education (NCFSE) and the National Education Policy (NEP) 2020 are necessary to close these disparities.

**Resistance to Change in Educational Practices**

Teachers, parents, and legislators are among the education stakeholders who frequently oppose the blending of conventional and new teaching methods. Zakir Husain's emphasis on hands-on, vocational learning and Malaviya's need for a comprehensive approach that blends Indian customs with contemporary education necessitate a fundamental change in the way that education is seen and provided. This transition entails not just curricular modifications but also a mentality shift that is frequently viewed with suspicion. In a system used to rote learning and traditional approaches, Malaviya's vision of inclusive and value-based education—which incorporates transdisciplinary learning—may be challenging to execute.

In a culture that values academic success above real-world skills, Zakir Husain's vision for experiential and vocational education may encounter obstacles. There is still strong opposition to educational reforms, especially when it comes to fusing ancient knowledge with contemporary fields, according to research, including that from Azim Premji University. It will need a cultural shift in educational methods to overcome this reluctance, advancing the notion that combining the old with the modern may result in a more comprehensive and future-ready educational system.

**Opportunities:**

**Leveraging NEP 2020 for a Transformative Education System**

In line with the educational goals of Zakir Husain and Madan Mohan Malaviya, NEP 2020 offers a dynamic framework for reforming the Indian educational system. NEP's emphasis on holistic development supports Malaviya's mission to advance inclusive, value-based, and multidisciplinary education. Malaviya's goal of fusing traditional

knowledge systems (IKS) with contemporary education is exactly in line with NEP 2020's establishment of School Innovation Councils and Multidisciplinary Education and Research Universities (MERUs).

Specifically, MERUs seek to promote excellence in research and transdisciplinary learning in disciplines such as science, technology, and the humanities. Malaviya's vision of a well-rounded educational system that fosters both moral principles and intellectual growth will be accelerated by these establishments. Every district will have at least one MERU by 2030, which will support the development of a comprehensive educational system based on national values. This ambition is supported financially and institutionally by the Higher Education Commission of India (HECI) and the National Research Foundation, two important enablers.

**Integrating Technology with Traditional Values**

Zakir Husain and Malaviya both underlined the necessity of updating educational institutions without sacrificing traditional values. Using technology as a vehicle for this change is essential to realizing their goal. Initiatives such as Diksha and SWAYAM offer digital learning platforms that incorporate traditional Indian knowledge systems (IKS) and make modern education accessible. NEP 2020 offers a chance to revive traditional Indian teaching methods by integrating ideas like Vedic Mathematics and traditional construction techniques with cutting-edge technology like virtual reality (VR) and artificial intelligence (AI). This combination of contemporary technology and ancient knowledge reflects Malaviya's view that learning should be comprehensive by balancing the old and the new.

**Promoting Research and Innovation Rooted in Indian Ethos**

The NEP 2020 encourages the growth of research ecosystems that concentrate on innovation anchored in Indian values, which is consistent with Zakir Husain's emphasis on vocational education and scientific concepts used to the benefit of humanity. Indigenous technologies and concepts can be explored through research programs at organizations such as the Indian Institute of Science (IISc) and efforts under the Ministry of Education's Indian Knowledge Systems Division. This method supports Malaviya's view that education should foster an awareness of India's scientific and cultural legacy in addition to giving pupils modern abilities. NEP 2020 urges the next generation to develop solutions that embrace global innovations while respecting and honoring Indian traditions by fusing these indigenous ideas with contemporary research methodology.

**Global Collaboration with Indian Foundations**

Initiatives that foster international cooperation and present Indian education as a harmonious fusion of contemporary and traditional knowledge demonstrate Malaviya's aim of bringing about world peace via education. A shining example of this fusion is the Banaras Hindu University (BHU), founded by Malaviya, which is progressively forming worldwide alliances to showcase India's educational paradigm to the rest of the globe.

Another program that encourages international students to learn about Indian culture and values is Study in India, which helps to advance global harmony and understanding.

This multinational partnership strengthens India's influence on global educational discussions by emphasizing how Zakir Husain's emphasis on secularism and universal humanism is combined with Malaviya's dedication to promoting world peace via education. India can provide a distinctive educational experience that combines traditional knowledge with state-of-the-art research by promoting educational exchanges, furthering Malaviya's objective of global education based on moral and cultural principles.

**Conclusion**

*The educational ideas of Dr. Zakir Husain and Pandit Madan Mohan Malaviya remain crucial in forming India's educational system, particularly in view of the National Education Policy (NEP) 2020. NEP's objectives of developing an egalitarian, comprehensive, and culturally grounded educational framework are in line with both leaders' emphasis on inclusive, value-based, and interdisciplinary education.*

*The foundation for an educational system that fosters moral development, national duty, and cultural pride in addition to intellectual advancement was established by Malaviya's concept of fusing Indian Knowledge Systems (IKS) with contemporary scientific education. His commitment in fusing modern academic and scientific knowledge with Indian heritage was embodied in the founding of Banaras Hindu University (BHU). Initiatives like the PM eVidya project and the NEP 2020 promotion of regional languages in primary education are two examples of how his emphasis on moral principles, patriotism, and holistic development continues to influence contemporary educational practices.*

*With his strong commitment to secularism and educational reform, Zakir Husain emphasized the significance of developing an inclusive and unbiased educational system that promotes integrity, equality, and intellectual excellence rather than emphasizing a person's religion or identity. His work emphasized the necessity for multidisciplinary education with an emphasis on practical knowledge, vocational skills, and character development, especially in the Wardha Scheme of Basic Education. His goal is in line with the NEP's focus on inclusive education, skill development, and vocational training, which guarantees that every student has the means to make a significant contribution to society.*

*Through education, both promoted national duty and civic responsibility. Husain's secular nationalism, which advocates for the creation of people who make contributions to both their local society and the larger global context, is complemented by Malaviya's vision of education that promotes civic duty and patriotism. Both believed that education might change society by removing boundaries between social classes and making education available to everyone.*

*Their common goal is being realized under NEP 2020 through interdisciplinary programs, top-notch research, and curricular integration of cultural origins. Malaviya and Husain's views on multidisciplinary education and research with roots in both tradition and modernity are echoed by the policy's programs like the National Research Foundation and Multidisciplinary Education and Research Universities (MERUs). Furthermore, the way that technology and Indian culture are linked, as demonstrated by websites like SWAYAM and Diksha, is consistent with their shared focus on reviving traditional knowledge using contemporary techniques.*

*In conclusion, Malaviya and Husain's educational theories are still very much in use today and serve as the cornerstones of India's educational reforms. The NEP 2020, which places a strong emphasis on fusing ancient knowledge with contemporary teaching methods, carries on their shared goal of inclusive, value-driven, and holistic education. A more inventive, inclusive, and culturally grounded educational system that seeks to equip the next generation for both domestic and international issues is guided by their legacy.*

**Call to Action**

To fully realize Zakir and Malaviya's vision, policymakers, educators, and institutions must prioritize:

- Enhancing teacher training with a focus on cultural integration.
- Developing infrastructure for inclusive and multidisciplinary learning.
- Promoting research that bridges ancient wisdom with modern needs.

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# Metaphor, Creativity and Existential Thinking: A New Perspective to ESL Classroom in the 21st Century

**Preetha Krishna L**[1]

**Abstract**

*The study examines the influence of Metaphor Awareness on Creativity and Existential Thinking of higher secondary school students in English. Normative Survey method was adopted for collecting data relevant for the study. A representative group of 800 higher secondary school students belonging to 20 different schools of Thiruvananthapuram district of Kerala State constitute the sample. The results of the study reveal that influence of Metaphor Awareness in English on Creativity of higher secondary school students is found to be strong (R=0.733). The results also reveal that influence of Metaphor Awareness in English on Existential Thinking of higher secondary school students is found to be strong (R=0.547).The study throws light on the importance of metaphors in English language learning.*

***Keywords:*** *Metaphor, Creativity, Existential Thinking, ESL Classroom*

## Introduction

English is a language in many forms is everywhere. English expanded from a language spoken by about 6 million people in 1600, a little over 8 million in 1700, around 30 million in 1800, to about 120 million in 1900 (Cummins & Davison, 2007). The number of bilingual users of English now far surpasses the number of its native speakers. In short, English is a progressive and dynamic language and universally renowned for its power of expression and prosperous literature.

The uniqueness of English does not lie in the only fact that it helps us to be in line with the recent trends and requirements, but ignites the heat and humidity of human thoughts and feelings to an epic extent through its literature. The canon of English Literature is continually expanding. Great literature excites and arouses the readers not only once but repeatedly. Literature lives within language and language within everyday life. Language is the vehicle through which literature delights and instructs. A piece of literature is fundamentally a performance in words. A word is a point at which many

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very different influences may cross or unite. The prominent place of English is linked not only in its writings but also in its interpretations. The proper place for a detailed discussion of the multiple meanings in a word or a line is the classrooms.

**Need and Significance of the Study**

In the novel Hard Times (1854), Charles Dickens satirised the rigid practices of the 19th century European schooling. In the introduction, the retired hardware merchant school master, Mr. Thomas Gradgrind, admonishes one of his teachers – in training appropriately named Mr. McChoakum child saying:

*- Now what I want is Facts. Teach these boys and girls nothing but Facts. Facts alone are wanted in life. Plant nothing else, and root out everything else. You can only form the minds of reasoning animals upon Facts: nothing else will ever be any service to them...Stick to the Facts, sir!*

Dickens compared schooling to murdering the innocent‖ because it was overloaded with facts and figures and it obliterated the awakening of learners' creative abilities. No education is complete without due consideration given to the creative and aesthetic development of the child. The New Education Policy (NEP) 2020 stressed the need to move towards out of the box thinking and lateral thinking to maximize learning across the curriculum.

English is one of the fascinating and challenging subjects of the school curriculum. When we speculate about English learning or the nature of English language, we notice that there are various interesting aspects yet to be explored. Central to the figurative inquiry into the language and literature of English is the concept of metaphors. Generally speaking, a metaphor is a figure of speech in which a concept is described in terms of another, unrelated concept (Cameron, 2003). From the English nursery rhyme which compares the stars as diamonds in the sky to William Shakespeare's 'All the world's a stage / and all the men and women merely players; They have their exits and their entrance', the world of English language and literature is mounted with metaphors.

By saying one thing is another, the mind is forced into powerful associative process and also to discover new ways of expression and understand difficult concepts (Brown, 2003) and hence enhances cognition and conceptualization. Metaphor is at the centre of creative process (Bruner, 1962). For Aristotle, metaphor appears as a creative process of establishing similarities. Through metaphors, thoughts are exposed to related concepts and are compared to each other. Trying to understand meaning through logic alone can disrupt the creative process. Through metaphors, two ideas that have less logical connections are linked together. By breaking the rules of logic, metaphors open up creativity by evoking vivid images, ideas and concepts.

Human creativity springs from human existence (Tymieniecka, 1991). Existence is the source from which thinking and acting springs. The roots of existential thinking are found in the Socratic dictum, 'Know thyself' (Gaur, 1985). English language classrooms right from the fables of a hare who ridicules a slow moving tortoise or the story of a

thirsty crow to Hamlet's 'To be or Not to be' soliloquy abound with existential thoughts. Within the English texts, the students will be examining the lives of the characters and the experiences of the characters and will be reflecting upon those experiences. The English textbooks demonstrate the multiple facets of literature and how literature is able to illustrate the physical, the psychological, the social and the spiritual dimensions of human existence.

In contrast to the plethora of research on the communicative and grammatical aspects, there is a dearth of empirical research on metaphoric aspects in ELT. Metaphor studies is relatively a new area of research in the educational context. Fostering Metaphor Awareness, Creativity and Existential Thinking is important in language classrooms as it can help learners understand to use language for effective communication themselves.

**Metaphor, Creativity and Existential Thinking in ESL Classroom**

The central role of metaphors in the study of language has become an established tenet of modern cognitive science. According to Boers (2000), enhancing students' metaphor awareness apparently facilitates English learning naturally. Enhanced metaphoric awareness through activities help students to establish the association between the metaphoric expressions and its more concrete senses can lead to higher retention rate of vocabulary (Boers, 2000a). Metaphor awareness-raising activities can also aid second language learners in the reading of literature both in immediate and delayed interpretation (Picken, 2007). Using metaphors in ESL classrooms heighten students' associative fluency and metaphoric intelligence can lead to improved language learning (Littlemore, 2001).

According to Lakoff & Johnson (1980), 'Human conceptual system, of which we think and act, is fundamentally metaphorical in nature'. According to Bullough and Gitlin (2001), 'people are born into metaphorical meaning systems'. Metaphors allow us to continually make and remake reality with our minds (Cook- Sather, 2003). Metaphors can be useful strategy to liberate conventional ways of thinking and generate new ideas (Schon, 1979) for they have the capacity to educate beyond words (Garner, 2005). According to Young (1996), 'Metaphors form visual constructs through which we associate, interpret and organize thought'.

Metaphors can define the intangible or abstract (Garner, 2005) and thus facilitating the learning process. Metaphoric language and thought play a significant, indeed a key role in all the areas of competences namely, textual, grammatical, communicative, sociolinguistic, illocutionary, and strategic (Littlemore and Low, 2006). Metaphor is a way of understanding hidden connections, of reunifying the world which scientific understanding has fragmented (Bate, 2000). They act as powerful cognitive models through which educators and learners can understand educational phenomena by relating them to something previously experienced (Botha, 2009).

As Cameron and Low (1999) comment, while there is recognition that the linking of meaning through metaphor can contribute to language learning efficiency, this does not

seem to have been developed in mainstream English Language Teaching (ELT). This justifies the need for a study of Metaphor Awareness of Students in English.

Metaphor is a matter of language and language is creative by its very nature. Creativity in language is a form of expressing feelings, thoughts or ideas in an imaginative way. It stretches the imagination and offers a wonderful outlet for expression. Creativity of language is born out of breaking the fences, getting out of the boxes, violating the rules and breeching the familiar horizons. Creativity is more important for a teacher of a second or foreign language as it can help to achieve the affective and cognitive engagement vital for language acquisition (Tomlinson, 2015). Research indicates that language creativity facilitates language learning (Bell, 2009) and improves learners' proficiency (Schmitz, 2002). Hence it is inevitable that creativity has a strong base in language.

Moreover, human creativity is the key to success or failure in mankind's quest for knowledge. Indian philosophers, over the centuries have given deep and abiding thought to the theoretical and philosophical aspects of the process of creativity. Throughout the history of human kind, creativity is considered as the primary force behind all innovations. The nature and nurture of creativity has been an important concern of educationalists and psychologists from the early days of organized human existence (Sananda Raj, 1978).

At school level, creativity is said to provide a powerful way of engaging learners with their learning. 'Create'(produce original ideas) has been placed on the top of the educational cognitive skills' pyramid of Bloom's Taxonomy (1979). The school of Pschyo-analysis considers creativity as a means and product of one's emotional purging and an opportunity for sublimation and catharsis. Ausubel (1968) believes that creativity reflects a rare capacity for developing insight, sensitivities and appreciations in a circumscribed content area of intellectual or artistic activity. Vygotsky (1967) emphasizes the importance of cultivating creativity in school age children. But, creativity, language play or lucid language has not received appropriate attention in linguistic studies' (Crystal, 1998). We humans have not yet achieved our full creative potential primarily because every child's creativity is not properly nurtured.

Philosophers, saints and seers have been dealing with the problem of being and existence since ancient times. Thus themes and theories on human existence can be located and a wide variety of works can be traced throughout the ages. Existential thinking is a humanistic perspective on the individual situation and a search for creative identity (Akhter, 2015). It is the way in which the person relates himself personally to that which he knows (Johnson, 1971). According to Shearer & Allan (2012), Existential thinking is a meaning making process where an individual is able to reflect philosophically on issues important to the life of oneself as well as other people or humanity.

Existential thinking in the classroom helps to explore students' experience of the world and what they find meaningful (Kaplan & Owings, 2011). The students begin to

contemplate their purpose in life, indulge themselves in philosophical thinking, question what life is all about and what it might matter. The learner through his existential thinking establishes his selfhood and integrity. It is imperative to ingnite students to think for themselves in order to recognize the deeper, more subtle components of one's existence. In the learning of English language and literature, higher cognitive processing is equally important. Literature ignites existential thinking which will allow to view differently the world around and the world within (Gill & Sherman, 1973).

**Research Questions**

1. Does Metaphor Awareness in English influence Creativity of higher secondary school students?

2. Does Metaphor Awareness in English influence Existential Thinking of higher secondary school students?

**Hypotheses of the Study**

1. Metaphor Awareness in English has significant influence on Creativity of higher secondary school students

2. Metaphor Awareness in English has significant influence on Existential

Thinking of higher secondary school students

**Objectives of the Study**

1. To find out the influence of Metaphor Awareness in English on Creativity of higher secondary school students
2. To find out the influence of Metaphor Awareness in English on Existential Thinking of higher secondary school students

**Methodology in Brief**

Normative Survey method was adopted for collecting data relevant for the study.

**Sample for the Study**

The population for the study is higher secondary school students of Kerala State. A representative group of 800 higher secondary school students belonging to 20 different schools of of Kerala State constitute the sample. The sample is selected by stratified random sampling technique.

**Tools Used**

1. Metaphor Awareness Test in English (Preetha Krishna & Theresa Susan, 2016)
2. English Language Creativity Test (Preetha Krishna & Theresa Susan, 2017)
3. Existential Thinking Scale (Preetha Krishna & Theresa Susan, 2017)

**Analysis, Interpretation and Discussion of Results**

Regression Analysis of Metaphor Awareness in English and Creativity of Higher Secondary School Students (Total Sample)

In order to find out the extent of degree of relationship between Metaphor Awareness in English and Creativity of higher secondary school students, coefficient of correlation is calculated and then to predict Creativity, regression coefficient of Creativity on Metaphor Awareness in English was obtained. The details are presented in Table 1 and Table 2

**Table 1**

**Degree of Relationship between Metaphor Awareness in English and Creativity of Higher Secondary School Students (Total Sample)**

| N | r | $R^2$ | Adjusted $R^2$ | Standard Error of Estimate |
|---|---|---|---|---|
| 800 | 0.733 | 0.538 | 0.537 | 13.21324 |

The degree of relationship between Metaphor Awareness in English and Creativity of higher secondary school students is found to be strong (r= 0.733). The above table shows that 53.8% variation in Creativity can be explained by Metaphor Awareness in English ( $R^2 = 0.538$).

Inorder to find out the influence of Metaphor Awareness in English on Creativity of higher secondary school students, regression analysis is done and regression coefficient of Creativity on Metaphor Awareness in English was obtained. The details are given in Table 2

**Table 2**

**Influence of Metaphor Awareness in English on Creativity of Higher Secondary School Students for the Total Sample**

| Regression Analysis | β | SE | t value | Significance level ( p value) |
|---|---|---|---|---|
| Constant | -39.765 | 2.132 | -18.649 | 0.00 |
| Metaphor Awareness in English | 2.262 | 0.79 | 30.470 | 0.00 |

F value= 928.395; $R^2$ = 0.538; Independent Variable: Metaphor Awareness in English

The regression analysis shows that Metaphor Awareness in English is significant since the p value is less than 0.05. That is, Metaphor Awareness in English reliably predict the dependent variable Creativity. The above table shows that every unit increase in

Metaphor Awareness in English can predict 2.262 unit increase in Creativity. The coefficient of Metaphor Awareness in English is statistically significant ($p<0.05$).

**Tenability of Hypothesis**

H1- Metaphor Awareness in English has significant influence on Creativity of higher secondary school students

The degree of relationship between Metaphor Awareness in English and Creativity of higher secondary school students is found to be strong ($r= 0.733$) which is statistically significant ($p<0.05$). The regression analysis shows every unit increase in Metaphor Awareness in English can predict 2.262 unit increase in Creativity. Hence the hypothesis Metaphor Awareness in English has significant influence on Creativity of higher secondary school students is accepted.

Regression Analysis of Metaphor Awareness in English and Existential Thinking of Higher Secondary School Students (Total Sample)

In order to find out the extent of degree of relationship between Metaphor Awareness in English and Existential Thinking of higher secondary school students, coefficient of correlation is calculated and then to predict Existential Thinking, regression coefficient of Existential Thinking on Metaphor Awareness in English was obtained. The details are presented in Table 3 and Table 4.

**Table 3**

**Degree of Relationship between Metaphor Awareness in English and Existential Thinking of Higher Secondary School Students (Total Sample)**

| N | r | $R^2$ | Adjusted $R^2$ | Standard Error of Estimate |
|---|---|---|---|---|
| 800 | 0.547 | 0.299 | 0.298 | 7.97497 |

The degree of relationship between Metaphor Awareness in English and Existential Thinking of higher secondary school students is found to be strong ($r= 0.547$). The above table shows that 29 % variation in Existential Thinking can be explained by Metaphor Awareness in English ($R^2 = 0.299$).

Inorder to find out the influence of Metaphor Awareness in English on Existential Thinking of higher secondary school students, regression analysis is done and regression coefficient of Existential Thinking on Metaphor Awareness in English was obtained. The details are given in Table 4.

**Table 4**

**Influence of Metaphor Awareness in English on Existential Thinking of Higher Secondary School Students for the Total Sample**

| **Regression** | β | SE | t value | Significance |
|---|---|---|---|---|

| **Analysis** | | | | level ( p value) |
|---|---|---|---|---|
| **Constant** | 77.402 | 1.287 | 60.147 | 0.00 |
| **Metaphor Awareness in English** | 0.826 | 0.045 | 18.435 | 0.00 |

F value= 339.859; $R^2$ = 0.299; Independent Variable: Metaphor Awareness in English

The regression analysis shows that Metaphor Awareness in English is significant since the p value is less than 0.05. That is, Metaphor Awareness in English reliably predict the dependent variable Existential Thinking. The above table shows that every unit increase in Metaphor Awareness in English can predict 0.826 unit increase in Existential Thinking. The coefficient of Metaphor Awareness in English is statistically significant ($p<0.05$).

**Tenability of the Hypothesis**

H2- Metaphor Awareness in English has significant influence on Existential Thinking of higher secondary school students

The degree of relationship between Metaphor Awareness in English and Existential Thinking of higher secondary school students is found to be strong ($r=0.547$) which is statistically significant ($p<0.05$). The regression analysis shows that every unit increase in Metaphor Awareness in English can predict 0.826 unit increase in Existential Thinking. Hence the hypothesis Metaphor Awareness in English has significant influence on Existential Thinking of higher secondary school students is accepted.

**Major Findings and Discussion of Results**

(1) The influence of Metaphor Awareness in English on Creativity of higher secondary school students is found to be strong ($R=0.733$).

(2) The influence of Metaphor Awareness in English on Existential Thinking of higher secondary school students is found to be strong ($R=0.547$).

The two major findings of the study is supported by the findings of the related literature of (Kenett, Gold & Faust, 2018); (Sanchez et. al., , 2013); (Kasirer & Marshal, 2018); (Riddell, 2016); (Ngara, 2009); (Gobbo, 2008); (Bump, 1985); (Cirka & Corrigall, 2010); (Raina, 2013); (Ryman et.al. , 2009); (Hausman,1991); (Linda, 1992); (Ricoeur, 1977); (Kenneth, 2012) and (Davidson, 1984).

**Conclusion**

With the understanding that human thinking is metaphorical at its core (Bowers, 1993), the use of metaphors in teaching and learning can be a powerful pedagogical approach. From the analysis of the results, the study has proved that Metaphor Awareness in English has significant influence on Creativity and Existential Thinking of students at

higher secondary school level. Hence the investigator recommends enhancing the role of metaphors and metaphor based instruction in English language classrooms.

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# Language Rich Classroom Practices-Bringing Excellence to Foundational Literacy and Numeracy (FLN) for Young Learners

**Nida Fatima[1] & Quazi Ferdoushi Islam[2]**

"Learning power comprises both literacy and numeracy, and is ultimately more fundamental than either of them" **Guy Claxton**

**Abstract**

The nature of the Learning Environment given to Young Learners serves as a fertile space for cultivating their learning capabilities and their sensibilities, to know and act in the practical world. Language Rich Classroom Practices are an umbrella term usually used for all the teaching methods; which are based on constructivist paradigm and focus on developing learner friendly environment in the classroom. The National Education Policy-2020 has proposed that students at foundational stage (class1 and class 2) in schools, must achieve basic levels in Foundational Literacy and Numeracy (FLN). This paper attempts to study Language Rich Classroom Practices and how these practices can enhance Foundational Literacy and Numeracy Teaching at Primary Level in Schools. The paper focuses primarily on review of secondary data sources and policy documents as well as related literature. A qualitative methodology is used to analyze the research objectives of the paper, the paper explores various components of Language Rich Classroom Practices and their potentialto improve quality of teaching at foundational stage so as to bring excellence to Foundational Literacy and Numeracy Teaching at primary level in schools.

***Keywords:*** *Language Rich Classroom Practices, Primary Education, Learning Environment, Young Learners, Quality Teaching, Foundational Literacy and Numeracy*

## Introduction

Foundational Literacy and Numeracy is all about basic education. It aims at fostering a child's understanding of language and numbers. The basic knowledge of Language, Literacy and Numeracy paves path for knowledge acquisition. Throughout the early years of schooling, Language plays a crucial role in child's understanding of the world

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and other cognitive development.The level of conception, perception of the surroundings and information processing happens in a young learner's brain. Not only do their communication skills develop,but their vocabulary also expands in these years. Gradually, the child starts to recognize patterns in his/her language. Children learn that written words can be divided into smaller single words, which have speech sounds and that numbers represent quantities. Later on, children become well versed in writing simple texts and in solving basic mathematical operations. This realization of use of language and its relationship with numbers is a part their metalinguistic development. In this backdrop, a Language rich- classroom environment acts as a fertile space for children's foundational learning in school. The initial eight years of a child's life (Age 0 to 8) is a period of comprehensive growth and development. It is a critical period of learning. Various researches have concluded that children who are enrolled in best quality preschool curriculum reach major social, educational, and intellectual milestones than other children. Such early education gives them a developmental edge over their peers.

In current times, Foundational Literacy and Numeracy (FLN) is a prerequisite towards achieving better learning outcomes as advocated in National Education Policy 2020. It states that 'there will be a greater emphasis on foundational literacy and numeracy to avoid the learning crises. (NEP,2020, pp.8-9) Foundational literacy and numeracy (FLN) skills are a set of skills that can be explained as ability to read and write, and to be able to do basic mathematics. It can be considered as a building block, which paves foundation for further learning as it empowers learner with an ability of comprehend and communicate effectively, as well as work through numerical concept. It is against this backdrop, (NEP, 2020) strongly proposes that Foundational Literacy and Numeracy be strengthened in a mission mode. It has launched NIPUN- Bharat with a vision to ensure universal literacy and numeracy for Class 3 children by 2026-27. To achieve the policy vision, A Framework for Education at Foundational Stage, 2020 is being used in schools.

**Objectives of the study**

- To study the components of Language Rich Classroom Environment.
- To identify the areas in which Language Rich Classroom Practices can help teachers in FLN teaching for young learners.
- To study the benefits of Language Rich Classroom Practices in FLN teaching for young learners.

**Methodology of the Study**

The study pursues a qualitative approach to analyse the research objectives of the study. This study is based mainly on secondary data sources such as policy documents, academic journals, research articles, books and other related literature. The research also draws upon the recommendations of recent National Education Policy 2020 and other government reports regarding FLN teaching for young learners (age3 to 8). The

related literature and data were analyzed accordingly to understand the components of Language Rich Classroom Practices and how it helps teachers teaching Foundational literacy and Numeracy (FLN) skills to young learners. The study also explores the benefits of using Language Rich Classroom Practices in Foundational Literacy and Numeracy teaching for young learners. The study adopts a qualitative methodology and hence, focuses on descriptive analysis of the data available, policy documents and current practices of teachers teaching at foundational stage (class 1st and 2nd - in schools).

**Language Rich Classroom Practices**

The idea behind Language Rich Classroom Practices is based on the premise that Learning thrives when a favourable Language Rich Classroom Environment is provided to the learners. A Language Rich Classroom Environment means "One in which children are exposed deliberately and recurrently to high-quality verbal inputs among peers and adults and in which adult-child verbal interactions are characterized by adult-responsiveness." (Justice, 2004, p.7) It is an intentionally created learning space in which young learners are exposed to varied language experiences, which actively involves them to engage with sounds, words and other interactions so as to build a strong foundation for reading, writing and numeric skills. All the major cognitive and social perspectives of language learning such as constructivism and sociocultural theories support the idea of positive adult-child interaction to be beneficial in early childhood teaching-learning process. It actively promotes children's communicative skills and language development as a whole.

A language-rich environment considers the physical, emotional and sensory aspect of the classroom available for the children in school. It is classroomwhere human interactions between the (responsible adult) the teacher and children (young learners) takes place. This interaction with peers and teachers allow them to explore the different elements of literacy by emphasizing the importance of speaking, reading and writing in the teaching-learning of young learners.It is highly based on the selection of materials that facilitates language and literacy opportunities; reflection and thought regarding classroom design; and intentional instruction and facilitation by teachers and staff (Snow, Burns, & Griffin, 1999). Language Rich Classroom Practices helps teachers meet learner's needs, as teachers can design individualized learning activities to enhance understanding the concepts of print and word, linguistic and phonemic awareness, basic knowledge of numbers and other vocabulary development. In this regard, Language Rich classroom Practices arean inclusive teaching approach which recognizes the fact that children come with different levels of learning and cultural backgrounds to classrooms and hence, teaching must be done by creating a learner-centred environment in the classrooms only.

**Integrating Language Rich Classroom Practices in Foundational Literacy and Numeracy (FLN) Teaching in Schools.**

The National Education Policy, NEP 2020 has strictly proposed that 'foundational literacy and numeracy is a prerequisite for all future schooling and lifelong learning". It aims to achieve universal FLN by the year 2025. The National Education Policy states that foundational literacy and numeracy must get utmost importance in school education. The policy has recommended a National Mission to achieve universal standard of FLN, namely NIPUN Bharat- Initiative for Proficiency in Reading with understanding and numeracy. The mission aims at developing foundational skills among students so that better learning outcomes can be achieved and higher order thinking can be developed among students. NEP 2020 also envisages that by the year 2026-2027, children of class 3rd in all the Indian Schools will be able to read with comprehension and may be able to write as well as do basic mathematical operations. It also proposes teaching of life skills to the students at primary level.

**Foundational Literacy Numeracy for Young Learners.**

It refers to the essential skills of reading, writing and basic mathematics. Early years (age 0-8) is considered as foundational stage of cognitive development of children's brain and hence, these years are crucial for the development of FLN skills.

- **Foundational Literacy and Language.**

The idea of foundational literacy is deeply rooted in the development of language skills in a child. Every child has a repository of preexisting ideas of language in his mind. This preexisting knowledge of language helps individuals develop literacy skills. The major components of Foundational Literacy and Language are **i) development of oral language** ( experiences in oral language are important for development of reading and writing skills, **ii) Decoding** (understanding meaning of written words based knowing the relationship between symbol and their sounds), **iii) Reading Fluency** (the ability to read words with accuracy , expression and speed as well as comprehension which help children understand meaning of the words.) **iv) Reading Comprehension** (it is the ability to understand text and meaning making.) Foundational Literacy and Language collectively are the competencies of understanding the language (words, sound, symbols) and decoding information or interpretations of the texts.

- **Foundational Numeracy**

It is the ability to do simple mathematical operations and to solve simple numerical concepts in real world situations. It can be called as foundation stone for early mathematics skills. It includes **i ) Number Concepts** (to be able to recognize numbers), **ii)Numerical Operations** (basic operations such as understanding conventions in mathematics such as learning about the number systems), **iii) Shapes and Spatial Understanding** ( performing simple computations), **iv) Measurement** ( perform simple addition, subtraction, multiplication and division on numbers up to three digits), **v) Data**

**Handling** ( the skill to identify patterns in numbers and shapes or interpret simple numerical data in daily life.)

In totality, Foundational Literacy and Numeracy can only thrive when Young Learners are taught in a language rich-classroom environment. In this light , Language Rich Classroom Practices are the need of the hour and greater emphasis must be put to this area of early education for students of primary stage of schooling.

The Framework of Education at Foundational Stage 2022 has emphasized that no child should fall behind and lack basic skills before he enters 3rd grade in school.

**Objective 1 - To study the components of Language Rich Classroom Environment.**

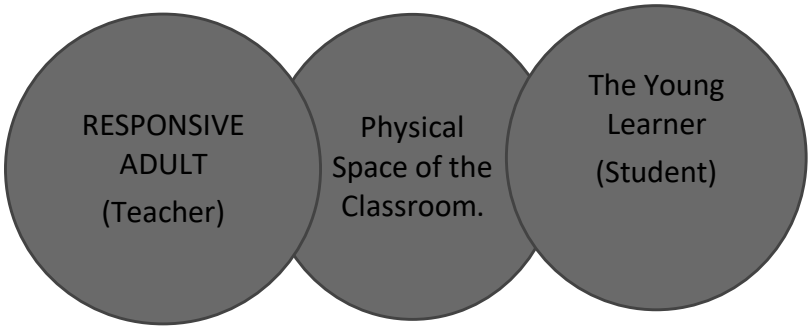


***Figure no.1 Key Components of Language Rich Classroom Environment***

**Source- Created by Author**

**1. The Responsive Adult-** In early education, a teacher plays a pivotal role and he is responsible for all the interaction that takes place in the classroom. Adult-Child interaction empowers language development in young students. Justice (2004) defined a language-rich classroom environment as "one in which children are exposed deliberately and recurrently to high-quality verbal input among peers and adults and in which adult-child verbal interactions are characterized by high levels of adult responsiveness" (p. 37).

This has been emphasized by five key elements:exposure, deliberateness, recurrence, high-quality input, and adult responsiveness.Exposure signifies that when learners are exposed to language in diverse situations and interactions takes place both, passively and actively in the classroom. Deliberateness here, means that teachers are intentional in choosing the language to interact and communicate with young learners. Teachers choose their own understanding of different levels of learning of the learners, and hence make intelligent choice of current language usage in the classroom. It is based on the child's developmental level. Recurrence emphasis the importance of repetition and its importance when children learn specific linguistic concepts. High-quality input means that "the language used by teachers in the classroom is diverse in terms of content, form, and use – three interrelated elements of the complex whole of oral language." Justice, 2004

Adult responsiveness signifies the teacher's understanding of child's developmental age and his/her potential of learning language as well as their competencies, as children's competencies are central to FLN teaching. Dickinson and Morse (2019) states that sensitive, responsive, and well-tuned communicative interactions can facilitate children's language development.

**2. Physical Space of the Classroom-** A classroom is just not a physical space, it is the area where learning rich ecosystem thrives. Not only student-teacher interaction happens but also all kind of learning activities are conducted in this space. It is pertinent that classroom must be designed in such a way that it can promote language development by putting visuals in the surroundings, or displaying language related interactive cues. It helps in creating an environment of interaction and engagement for the students. Students are exposed to language inputs around them. **Roskos & Neuman (2002) emphasis that** a well-organized classroom with designated areas for different activities, including dramatic play, as a key component of a language-rich environment. Even **Justice (2002) has identified that** the influence of classroom layout on the types of interactions and language use that occur between students and teachers affects the learning process. **Gràcia et al. (2012) opines** that a well-designed classroom space with designated areas for different activities positively impacts children's language development.

Creating a language rich environment in classroom space fosters linguistic abilities of the young learners. It is the interaction of teacher, physical space which is classroom, and young learners develop language rich classroom environment. Classrooms must consist of not only basic furniture but a lot more then that, so the child is exposed to an interactive and expressive space.

**Image Source-** TI-AIE: A language-rich classroom Copyright © 200X, 200Y The Open University

The above image is an example of Language-Rich classroom in a primary government school in India.

3. **The Young Learner-** The students who fall in age group 3-8 years are considered young learners in FLN teaching. These students are still developing with respect to their cognitive and social abilities. These are the students who come under pr-primary or primary education system. Language Rich Classroom Practices ensure that the young learners become well versed in their basic skills related to reading,writing and basic mathematics. It is directed towards children's academic success when they surpass primary education.

**Objective 2-**To identify the areas in which Language Rich Classroom Practices helps teachers in FLN teaching for young learners.

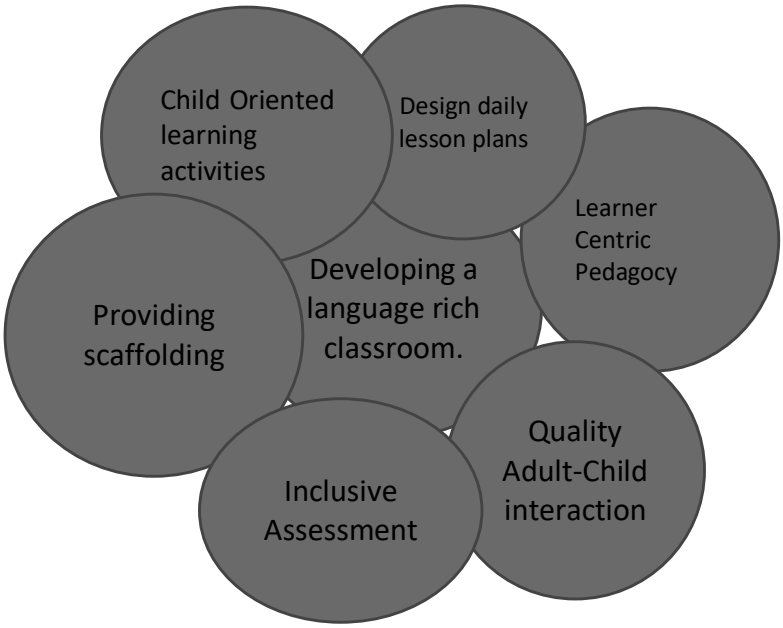


***Figure no-2 Key areas in which Language Rich Classroom Practices can help teachers in FLN teaching for young learners***

**Image- Created by Author**

Through a robust analysis of related literature, the following key areas were identified by the researcher, in which Language Rich Classroom Practices can help teachers in FLN teaching.

**1. Child Oriented Learning Activities-** Activities can be developed by considering the child as a center for learning process. Activities such as story telling initiates autonomy and expression among students.

**2. Design Daily Lesson Plans-** Teacher preparedness is the backbone of any teaching-learning process. An aware teacher is a responsible teacher. A daily lesson plan based on FLN principles may act as a beneficial tool.

**3. Inclusive assessment-** The assessment process based on recognizing the diversity among learners. Language rich classroom practices considers that student must be given fair chances to perform and learn. Their assessment must be based on equity and inclusiveness of all kind. Oral assessment is an example of inclusive assessment.

**4. Quality Adult-Child interaction-** In this area, when teachers teach with play way method or any other learning activity. Student engagement takes place and they are exposed to stimulated environment of learning. When teachers adopt Language Rich classroom practices then, quality adult-child interaction takes place and development of various skills take place.

**5. Developing a Language Rich Classroom-** In foundational literacy and numeracy, classroom plays an important role. Most of learning activities takes place here, hence using Language rich classroom practices can help teachers in creating a learner friendly space.

**6. Providing scaffolding-** Young Learners are provided with learning scaffolds in the class. Teachers through their classroom practices (language rich classroom practices) create a zone of proximal development for the child. Learners are provided with a lot of inputs, information, stimulus surrounding them; it is teacher's support which helps them in developing FLN skills.

**7. Learner centered pedagogy-** Language Rich Classroom Practices is all about adopting a learner centered approach of teaching. Language rich classroom practices helps teachers easily adopt learner centered pedagogic in the classrooms.

**Objective 3- To study the benefits of Language Rich Classroom Practices in FLN teaching for young learners.**

Through an intensive reading and analysis of related literature, the researcher has identified some key benefits of using Language Rich Classroom Practices in FLN Teaching for young learners.

- **Play based Learning**- Children learn effectively when they play as this mode of teaching places them in real life situation of 'playing with friends'. It benefits in the promotion and development of basic skills among children. Vansdadiya & Vasoya (2023) states that "By allowing children to explore and engage with their surroundings, play-based learning has been demonstrated to improve the development of core reading and numeracy abilities. Play-based learning also promotes a love of learning and may aid in the development of social and emotional skills in youngsters".
- **Language development and enhancing Literacy Skills -** Language Rich Classroom Practices benefits teachers in developing learning activities based on child centered

pedagogy. By adopting various methods of developing language -rich classroom environment ; teachers can immensely enhance the learner's communication skills, basic language skills as well as their vocabulary. This approach of teaching young learners holds the view , that integrating language development opportunities in classroom will lead to an enhancement in overall learning of the child, as language is the main carrier of curricular transaction in educational set up such as Schools and universities.

- **Positive Classroom Environment and Academic Success -** A positive classroom environment created by teachers and the learners produces academic excellence. Foundational Literacy & Numeracy is the backbone for further academic achievement for students. Language Rich Classroom Practices benefits young learns in their social as well as academic interaction because of a positive learning environment.

**Implications**

Early Education plays an important role in a child's academic success and life-long learning by shaping their language acquisition skills and phonological awareness. Through Language Rich Classroom Practices, interactive learning activities are developed and designed for young learners. In this background the role of teachers teaching at primary educational level becomes important, as teachers become an agency in providing suitable scaffolding in the learning process of the child as well as creating a positive learning environment in the classrooms. Exposure and Opportunities given to children, leads them to achieve life long learning. If the young learners are not taught basic language skills, literacy and numeracy, they will fall behind and it will hinder their academics. In this regard, even the National Education Policy 2020 has proposed NIPUN Bharat mission to achieve universal foundational education in India.

**Conclusion**

*Language Rich Classroom Practices are all those classroom practices that are directed towards Young Learner's development of literacy skills by recognizing the fact that the child already has an idea of sign and symbols of a language. Learners acquire knowledge by integrating their preowned knowledge of the world and their classroom interaction with peers and the teachers. Teacher's awareness about adopting language rich classroom practices and acting as a responsive adult will bring excellence to Foundational Literacy and Numeracy (FLN) Many Researches opines the same, one of them Girolametto and Weitzman (2002) states that "robust language gains by children were associated with high levels of responsiveness by teachers, especially when teachers' responses were focused on child-initiated topics". To conclude, thorough language-rich classroom practices, "teachers deliberately and repeatedly choose and use language of diverse content, form, and use based on the child's developmental competencies when responsively interacting with the child". Its high time, that teachers adopt language rich classroom practices to teach foundational skills to young learners.*

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# Revitalizing Preschool Education: Insights from the NEP 2020 Review

**Zeba Tabassum**[1]

**Abstract**

*Early Childhood Care and Education (ECCE) is a crucial component of any educational system since the early years set the foundation for a child's lifetime learning and development. The National Education Policy (NEP) 2020 in India places a strong emphasis on preschool education. By emphasizing a play-based, child-centred curriculum, promoting equity, and ensuring access for all, the policy aims to provide every child with a strong foundation for lifelong learning and development. While NEP 2020 presents a comprehensive framework for enhancing preschool education, challenges such as resource allocation and training of teachers remain critical for successful implementation. The successful implementation of the principles outlined in the NEP 2020 will require concerted efforts from the government, educators, and communities to overcome challenges and create an inclusive, high-quality preschool education system across the country. This paper focuses specifically on the implications for preschool education within the framework of NEP 2020 in India. By critically examining the policy's key aspects, strategies, and envisioned outcomes, the paper aims to unravel the potential opportunities and challenges NEP 2020 presents for stakeholders involved in Early Childhood Education (ECE), including educators, policymakers, parents, and most importantly, the children themselves.*

***Keywords:*** *National Education Policy (2020); Preschool Education; Early Childhood Care and Education*

## Introduction

**Early Childhood care and Education (ECCE)** is a critical phase in the development of a child. Research from around the world indicates that the first eight years of life are foundational to a child's learning abilities, behaviour, and overall well-being. Despite this recognition, India has faced significant challenges in ensuring that every child has access to quality early education.

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Preschool education is education imparted to children in 3-6 years age group. It is the first stage of organised education. Preschool education is also known as pre-primary education. It is provided in various settings, including Anganwadis, Nursery Schools, Preschools, Preparatory Schools, Kindergartens, Montessori schools and Pre-Primary sections located in government and private schools.

The National Education Policy (NEP) 2020, introduced by the Government of India, has set ambitious goals for transforming the education system. One of the key areas of focus in the policy is early childhood care and education (ECCE), which is regarded as the foundation for lifelong learning. In this regard, the NEP 2020 envisions a robust, inclusive, and comprehensive system for preschool education, emphasizing its critical role in the cognitive, social, emotional, and physical development of children.

This paper focuses specifically on the implications for preschool education within the framework of NEP 2020 in India. By critically examining the policy's key aspects, strategies, and envisioned outcomes, it aims to unravel the potential opportunities and challenges for stakeholders involved in ECE, including educators, policymakers, parents, and most importantly, the children themselves.

**Key Aspects of NEP 2020**

Below are some of the features of NEP 2020 to rejuvenate preschool education:

**1. Comprehensive Approach to ECCE**

Holistic Development: The goal of NEP 2020 is to provide children between the ages of three and six years old a holistic development. This covers the development of the mind, body, social-emotional system, and ethics.

Curriculum Framework: National Curricular and Pedagogical Framework for foundational stage that combines traditional Indian values with the finest international methods is emphasized in the policy.

**2. Accessibility and Inclusion**

Universal Access: NEP 2020 aims to guarantee that all children, regardless of their socioeconomic status, have access to high-quality early childhood education by 2030.

Inclusivity: The policy emphasizes the need of providing special education services to children from underprivileged families as well as those with special needs.

**3. Integration with School Education**

Foundational Stage: NEP 2020 introduces the 5+3+3+4 curricular structure, where the first five years are designated as the foundational stage, encompassing three years of preschool (ages 3-6) followed by grades 1 and 2.

Smooth Transition: This structure aims to ensure a smooth transition from pre-primary to primary education, maintaining continuity in learning.

**4. Teacher Training and Capacity Building**

Qualified Teachers: The policy requires ECCE teachers to complete extensive training and obtain certification, guaranteeing that they possess the requisite abilities.

Ongoing Professional Development: To keep teachers abreast of the most recent pedagogies and instructional strategies, NEP 2020 supports continuing professional development programs.

**5. Emphasis on Play-Based and Activity-Based Learning**

Learning through Play: The policy emphasizes play-based, activity-based, and inquiry-based learning approaches, recognizing their importance in early childhood development.

Joyful Learning Environment: It promotes creating a joyful and stimulating learning environment that encourages curiosity and exploration.

**6. Parental and Community Engagement**

Parental Role: In early childhood education, NEP 2020 recognizes the important role that parents and other caregivers play and promotes their active involvement in the educational process.

Community Involvement: To improve the standard of ECCE, the policy promotes community based interventions and support networks.

**7. Multilingualism and Cultural Context**

Mother Tongue Instruction: In order to improve comprehension and promote cognitive development, NEP 2020 suggests that early childhood education be provided in the child's mother tongue, or home language.

Cultural Relevance: By including regional customs, crafts, tales, and music, the curriculum and pedagogy are created with cultural relevance in mind.

**8. Infrastructure and Resources**

Resource Allocation: The policy calls for adequate allocation of resources, including physical infrastructure, teaching materials, and financial investments, to support ECCE programs.

Quality Standards: NEP 2020 sets quality standards and guidelines for ECCE centres to ensure they provide a safe, healthy, and conducive learning environment.

9. **Expansion and Enhancement of Anganwadi Centres**

Enhancing Anganwadis: NEP 2020 intends to enhance and fortify current Anganwadi centres, turning them into thriving early childhood learning hubs with a strong ECCE component.

Infrastructure Improvement: The policy calls for child friendly amenities, learning resources, and secure play spaces to be added to Anganwadi centres.

**10. Digital and Technological Integration**

Use of Technology: The policy promotes the use of technology to enhance ECCE, including digital learning tools, educational apps, and online resources that are age appropriate and engaging.

Access to Digital Resources: Efforts will be made to provide access to digital resources and connectivity, especially in rural and underserved areas, to bridge the digital divide.

**11. Advocacy and Awareness**

Public Awareness Campaigns: Through campaigns and community outreach initiatives, the policy emphasizes the value of educating the public about the significance of ECCE.

Parental Education: One of NEP 2020's goals is to teach parents and other care givers the value of early childhood education and the ways in which they can encourage their children's growth and development at home.

**12. Monitoring and Evaluation**

Assessment Framework: In order to ensure ongoing improvement, the policy suggests creating an assessment framework to track the results and advancement of ECCE programs.

Data-Driven Policies: This approach highlights how research and data are used to inform ECCE policy choices and practices.

**Implementation Strategies for quality Preschool Education under NEP 2020**

To ensure the effective implementation of NEP 2020 for quality preschool education, some of the strategies are:

- Universal Access: One of the key targets is to make preschool education universally accessible by 2030. The policy envisions the establishment of more public and private institutions, with a focus on rural and underserved areas. Anganwadi centres and other community-based models of early education are also to be strengthened to ensure greater access. The policy prioritizes the universalization of ECCE to ensure that every child, especially those from disadvantaged groups, has access to early education.

There is an urgent need for setting up Anganwadi centres and pre-schooling programs that are accessible to all, particularly those in rural and remote areas.

- Inclusion of Early Childhood Education (3-6 years) in formal school structure: NEP 2020 emphasizes that the first five years of a child's life should be devoted to foundational learning, which will be integrated into the larger framework of formal schooling. Early childhood education is thus seen as the first stage in the 5+3+3+4 structure of school education, beginning at the age of 3.

The government as well as private schools must work towards the creation of pre-primary sections in the school.

- Interlinking with Health and Nutrition: The NEP recognizes the importance of addressing health and nutrition as part of early childhood education, aligning with the existing Integrated Child Development Services (ICDS) program. This holistic approach ensures that children not only receive education but also adequate nutrition and care during their formative years.

Towards this Ministry of Women and Child Development has launched "Poshan Bhi, Padhai Bhi", that is “Education along with nutrition”. It is an Early Childhood Care and Education program under Mission Saksham Anganwadi and Poshan 2.0.[1]

- Strengthening Anganwadis and Preschools: Every child to be provided with at least two hours of high-quality Preschool instruction on a daily basis. As stated in the NEP 2020, Anganwadi Centres will be strengthened with high-quality infrastructure, play equipment, and well-trained Anganwadi workers/teachers.

Anganwadis, which are integral to India’s early childhood education system, need to be strengthened to serve as the primary provider of early education.

To this end Ministry of Women and Child Development is implementing the "Saksham Anganwadi and Poshan 2.0" during the 15th Finance Commission period 202l-22 to 2025-26.[2]Key components of Saksham Anganwadi and Poshan 2.0 include Nutrition Support through Supplementary Nutrition Programme, Early Childhood Care and Education, Anganwadi Infrastructure, and Poshan Abhiyaan.[3]

- In-service Teacher Training: There is an urgent need for the professionalization of early childhood educators by providing them with continuous training, support, and resources. The policy suggests the development of a comprehensive teacher training framework to ensure that educators are equipped with the necessary skills to foster developmentally appropriate learning.

To realize the vision of NEP-2020, NCERT under the aegis of Ministry of Education (MoE), Department of School Education and Literacy (DSE&L), Govt. of India, has initiated the National Initiative for School Heads' and Teachers' Holistic Advancement (NISHTHA) integrated training programme.[4]

- Curriculum and Pedagogical Reform: A child-centric and activity-based learning approach is emphasized in the NEP 2020. It calls for the development of curricula that promote play-based, inquiry-driven, and experiential learning methods, which are fundamental for young children. The curriculum should focus on building foundational skills such as language, numeracy, creativity, and socio-emotional development.

[1]https://en.vikaspedia.in/viewcontent/news/poshan-bhi-padhai-bhi-programme-launched?lgn=en
[2]https://socialwelfare.vikaspedia.in/viewcontent/social-welfare/women-and-child-development/saksham-anganwadi-and-poshan-20?lgn=en
[3]https://wcd.delhi.gov.in/sites/default/files/WCD/universaltab/mission_sa_p_copy_1_1.pdf
[4]https://itpd.ncert.gov.in/mod/page/view.php?id=504

The National Curriculum Framework for foundational stage is developed to provide guidelines for the design of preschool curricula. This framework ensures that learning experiences align with the developmental stages of children and promote play-based, experiential, and inquiry-based learning.

- Public-Private Partnerships and Community Engagement: To ensure accessibility, there must be collaboration between government agencies, private institutions, and communities. Partnerships can help mobilize resources, facilitate innovative solutions, and ensure the quality and reach of early childhood programs, particularly in under-served areas.
- Integration of ECCE with Primary Education and smooth transition: There is a need to integrate preschool education with primary education, emphasizing a smooth transition from early childhood education to formal schooling. The NEP 2020 advocates for a 5+3+3+4 structure, where the first five years of schooling (3-8 years of age) are dedicated to early childhood care and education.
- Foundational Literacy and Numeracy: There is a need to achieve foundational literacy and numeracy by the age of 8, laying the groundwork for further learning. The policy outlines that ECE must focus on fostering cognitive, emotional, and physical development, encouraging creativity, curiosity, and problem-solving abilities.

NIPUN Bharat/FLN mission: National Mission on Foundational Literacy and Numeracy is set up by the Ministry of Education. All State/UT governments are preparing an implementation plan for attaining universal foundational literacy and numeracy in all primary schools, identifying stage-wise targets and goals to be achieved by 2025, and closely tracking and monitoring progress of the same.[1]

- Increased Investment and Support: There is a need for increased funding and government support for the expansion and quality improvement of preschool education. Investment in infrastructure, teacher training, and the creation of resources to support early learning is considered critical.

**Challenges towards Quality Preschool Education**

While NEP 2020 lays a robust framework for rejuvenating preschool education, several challenges remain:

- Infrastructure and Resources: Many areas, particularly rural and remote regions, lack adequate infrastructure and resources for preschool education. Addressing these gaps will require substantial investment in physical and human resources.
- Inadequate Funding: The quality and accessibility of services are impacted by the lack of funding for many ECCE initiatives.

[1]https://nipunbharat.education.gov.in/

- Teacher Shortage and Training: The quality of preschool education is heavily dependent on the training and qualifications of teachers. There is a need to ensure that educators have access to continuous professional development and that the teacher-student ratio remains conducive to effective learning.
- Standardization Issues: There is often a lack of standardized curriculum and assessment frameworks, leading to inconsistent quality across different ECCE centers.
- Lack of Awareness: For NEP 2020's goals to be achieved, there is a need for increased awareness regarding the importance of preschool education, particularly in marginalized and rural communities.
- Community and Parental Engagement: Many parents and communities are unaware of the importance of early childhood education, leading to low enrolment and participation rates. In some regions, cultural attitudes and beliefs may not prioritize early childhood education, particularly for girls.
- Diversity in Educational Needs: India's diverse population requires tailored educational strategies that cater to different languages, cultures, and socio-economic backgrounds. Ensuring that all children receive quality education amidst this diversity is a significant challenge.
- Accessibility and Equity: Due to geographic constraints, children residing in the selocations frequently have restricted access to ECCE services. Children from low-income households may not be able to afford high-quality early childhood education due to economic disparities (Socio-Economic Disparities).
- Teacher Preparation and Retention: There is a pressing need for qualified preschool teachers who are adequately trained and supported. Addressing issues such as workload, salary disparities, and career growth opportunities is crucial for attracting and retaining talent in this sector.
- Health Services Integration: Integrating health and nutrition services with preschool programs are essential but can be complex to manage.

- Lack of proper Governance: ECCE is frequently the responsibility of many different government departments and agencies, which results in ineffective and fragmented governance.
- Sustainability Issues: Ensuring the sustainability of ECCE programs requires long term commitment and continuous support from both government and non-governmental organizations. Scaling up successful ECCE models to a national level can be challenging due to variations in regional contexts and needs.
- Implementation Gaps: Effective implementation of NEP 2020's provisions requires substantial investment in infrastructure, training programs, and monitoring

mechanisms to ensure adherence to quality standards across all preschool institutions.

## Conclusion

*The implementation of NEP 2020 is poised to significantly enhance the quality of preschool education in India by increasing accessibility, improving infrastructure, focusing on teacher training, integrating technology, promoting holistic development, engaging communities, establishing effective monitoring systems. These comprehensive measures aim to create a more equitable educational landscape where all children, regardless of their geographical location or socio-economic status, have access to high-quality preschool education.*

*While the NEP 2020 presents a visionary approach to preschool education, its successful implementation faces several challenges. By addressing existing challenges and leveraging community resources, this policy has the potential to significantly enhance early childhood education outcomes across the nation. Government of India with its different departments bringing different schemes and programmes is working towards the achievement of the objectives laid down by the National education Policy, 2020.*

*While NEP 2020 presents a comprehensive framework for enhancing preschool education, challenges such as resource allocation and training of educators remain critical for successful implementation. Addressing these issues is vital to realize the full potential of the policy in promoting holistic development.*

*This paper is not merely a theoretical discourse but a call for action from all stakeholders invested in the future of early childhood education in India. By critically engaging with the principles and proposals outlined in NEP 2020, it is important to catalyse constructive dialogue and informed decision-making among all stakeholders that empowers every child to realize their fullest potential, laying a strong foundation for lifelong learning and socio-economic prosperity.*

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# Science Pedagogy for a Sustainable Future: Integrating Education and Environmental Responsibility

**Namrata**[1]

*Sustainability Defined "…the development that meet the needs of the present without compromising the ability of future generations to meet their own needs" – Brundtland Commission Report (1987)*

**Abstract**

*Science education is essential to create the next generation of knowledgeable citizens and environmental stewards. In addition to teaching scientific literacy, science education must foster a comprehensive understanding of sustainability considering the world's pressing environmental concerns. Innovative teaching practices are critical in promoting sustainability in science classrooms through pedagogy. An effective science education can empower students to contribute to a more sustainable future by instilling critical thinking, problem-solving skills, and a thorough understanding of scientific concepts. Effective teaching practices can help students better comprehend and commit to sustainability. The purpose of teacher education is to provide aspiring educators with knowledge and awareness of sustainability. This article highlights how science pedagogy contributes to a sustainable future by implementing various teaching strategies in the classroom. The pre-service teachers should be taught by the teachers in a way that integrates the principles of sustainable development into their teaching methods.*

***Keywords:*** *Science Pedagogy, Sustainability, Science Curricula, Pedagogical Approach*

## Introduction

Education for Sustainable Development (ESD) has been more significant in teacher education after UNESCO's 2005 proclamation on reorienting education to foster critical analysis, public knowledge, and support forSustainable Development (SD). This statement received international support, and it was determined that ESD is crucial to the success of SD (UNESCO, 2006). ESD has a comprehensive viewpoint that

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encompasses ecological awareness, environmental literacy, and a grasp of the relationship between the natural and social sciences as well as human nature (Dillion, 2014; Karaarslan&Teksöz, 2016). Sustainability should not be addressed as a standalone subject, but rather as a cross-cutting issue that may be incorporated into a variety of science courses. For example, in physics, students can investigate the fundamentals of renewable energy and energy efficiency. In biology, they can investigate the interdependence of ecosystems and the significance of biodiversity.

**Science Curriculum and Pedagogy: To address Sustainability Issues**

Teachers can assist students in gaining a comprehensive grasp of environmental concerns and the role that science plays in resolving them by incorporating sustainability into all areas of the curriculum. Science curricula must incorporate sustainability to give students the information and abilities to tackle today's urgent environmental issues. An in-depth comprehension of sustainability principles can be fostered by a well-structured curriculum that supports successful science pedagogical practices. Science pedagogy strongly emphasizes the growth of scientific literacy, critical thinking, and inquiry-based learning. Teaching students about ecology, renewable energy, and climate change is only one aspect of integrating sustainability into science education. Instead, it entails promoting an awareness of the connections between human systems, such as the economy, culture, politics, and the natural environment. The science curriculum aimed for practical scientific literacy improvements. Science education fosters the capacity for students to examine these links, pose insightful queries, and apply what they have learned to practical problems. Many educational institutions now aiming to meet the Sustainable Development Goals (SDGs)by integrating sustainability into their curricula (González-Gómez & Jeong, 2022).

Pedagogical approaches need to reflect complex science epistemologies. Curriculum designs need to accommodate a range of sustainability and Socio Scientific Issues (SSI) outcomes (Tytler, 2012). There is a necessity to use a pedagogical approach to address sustainable development in the classroom (Hopkinson & James, 2010). Educational programs should measure sustainable community changes and not only isolated knowledge. While emphasizing the importance of education for sustainable development in teacher education, teachers should apply the sustainable development concepts in pedagogical teaching and then ensure students can follow the rules afterwards. Different pedagogical strategies were validated for sustainability education (Tejedor et al., 2019). To accomplish the 2030 Agenda's sustainable development goals, higher education must incorporate sustainability values into the development of management, research, university life, and, of course, instruction. Didactic teaching techniques proved to be most effective for educating college students about sustainability competencies (González-Gómez & Jeong, 2022). Understanding the moral implications of environmental concerns can be facilitated for students by integrating ethical debates into the science curriculum. Students should be encouraged to participate in community based initiatives to foster a sense of civic responsibility.

**Various Science Teaching Strategies to address sustainability issues in Education**

**Inquiry Based Learning**

Inquiry-based learning cultivates curiosity and enhances problem-solving capabilities by motivating students to formulate inquiries, examine scientific phenomena, and develop knowledge through experiential learning modalities. Inquiry based learning contributes to sustainability by involving students in authentic environmental challenges, thereby fostering experiential learning (Hmelo-Silver, Duncan, & Chinn, 2007). Students investigate sustainability challenges and look for evidence-based solutions as part of their active learning process rather than just passively receiving knowledge. For example, students investigate the quality of water in their locality for which students can gather water samples from lakes or rivers in the area to test for contaminants. They get an understanding of how human activity affects water resources through this practical research, which also encourages conversations about sustainable methods to save aquatic habitats. Teachers can conduct debates on the ethical implications of Genetically Modified Organisms (GMO) and impact of increasing green house gas emission on environment to instigate the sense of inquiry among students.

**Interdisciplinary Approach**

Interdisciplinary approaches necessary to address sustainability-related issues. The integration of subjects such as biology, chemistry, physics, and environmental science provides students with a holistic view of sustainability challenges.Several authors (Dale and Newman, 2005; Eagan, Cook, and Joeres, 2002; Luppi, 2011; Summers, Childs, and Corney, 2005) and UNESCO have emphasised the importance of an interdisciplinary approach in sustainable development education. According to Bybee (2010), the study of climate change, for example, incorporates ideas from the social sciences, ecological implications, and atmospheric chemistry. Science lessons can include topics from sociology (community impacts), economics (costs of sustainability projects), and policy studies (government laws on conservation and pollution).For instance topic of air pollution in science could be taught from various disciplines aspects.Composition of smog and its harmful effects on living beings can be taught from science perspective whereas from economic perspective the healthcare costs of pollution-related illnesses and economic losses due to reduced worker productivity should be discussed and analyzing government policies of air pollutionto curb the rising level of air pollution could enhance discussion from policy perspective.

**Problem Based Learning**

Problem Based Learning and project-based learning both foster critical thinking and teamwork skills, which are essential for tackling sustainability issues (Barrows, 1996; Krajcik & Blumenfeld, 2006). They also encourage students to work together to develop practical solutions to complex sustainability problems.Problem based learning emphasized that students must be able to critically evaluate facts and information gathered from various sources and learn how to draw lessons from the difficulties encountered during the resolution process. The tutor serves as a learning facilitator in

this situation.The laboratory-windpump challenge scenario was revolutionary in this regard since it provided students with an appropriate cluster atmosphere, analytical discussions that brought together complex ideas about aerodynamics, mechanics, and hydraulics, and the use of heuristic tools (analogies and diagrams) to facilitate effective problem-based learning(Gómez & Jeong ,2022). Students, for example, may engage in projects that design environmentally friendly activities such as composting programs, water harvesting projects, green roofs, or solar energy installations. Also, students should be encouraged to conduct study on issues including waste management, climate change mitigation, and alternative energy. Project assignments can involve calculating the carbon footprint of routine tasks and suggesting sustainable substitutes.

**Flipped Classrooms**

By making learning more student-centred, resource-efficient, and ecologically conscientious, the flipped classroom approach can enhance sustainability discussion in a science classroom. The Flipped Classroom approach effectively gives students a comprehensive grasp of sustainable development concepts and how they apply them to their academic journey through the Sustainable Development Goals (SDGs) (Martín-Peña et al., 2023). It is an approach that combines autonomous learning based on videos, readings etc. outside the classroom and utilises class time for active, social, discussion and problem solving learning activities (Abeysekera & Dawson, 2015; Rotellar & Cain, 2016; Lo & Hew, 2017; Akçayır&Akçayır, 2018). The students used this approach to complete individual and then group assignments, creating their materials with readings, videos, presentations, and class reflections. To provide students with advance content, teachers must meticulously develop course materials and use high-quality multimedia resources, which can take time and resources.Throughout the session, the teacher guided them through their individual and collective learning experiences.

**Experiential Learning**

Kolb's (1984) model suggests that learning is most effective when students engage in direct experiences and reflect on them. Experiential learning enables students to connect directly with environmental issues, resulting in a deeper understanding of sustainability. For example, by allowing students to interact with their environment, outdoor education and exploration help them develop a stronger bond with the land and a broader understanding of sustainable practices.Place-based education, a type of experiential learning, uses the local environment to contextualize learning. According to McDonald (2023), place-based education is an educational methodology that is centred on the environment, community, and culture and builds curriculum content from students' real-world experiences. This method promotes a deeper grasp of real-world situations by empowering students to actively engage with their environment through practical, hands-on learning (McInerney et al., 2011).

**Conclusion**

*Science pedagogy is essential in preparing pupils for a sustainable future and plays a critical role in promoting sustainability in science classrooms by providing students with*

*the knowledge, skills, and values required to address global environmental concerns. Teachers play a crucial role in determining how students view and interact with sustainability. Teachers can provide students with the knowledge, skills, and values they need to address today's pressing environmental challenges by adapting their teaching practices to focus on real-world issues, inquiry-based learning, practical applications, environmental awareness, and cross-curricular integration. By encouraging a new generation of informed and involved citizens, sustainable future can be created for all. The integration of sustainability within science classrooms is congruent with global educational frameworks, such as the United Nations' Sustainable Development Goals (UNESCO, 2017), which highlight the essential role of education in promoting sustainable development. To achieve this, educators must adopt pedagogical strategies that cultivate environmental literacy, encourage action-oriented learning, and instil a deep appreciation for sustainability. Teachers can enable students to make a difference in their communities and around the world by cultivating a classroom culture that promotes curiosity, creativity, and collaboration. Ultimately, the future of the planet depends on how well students understand and apply scientific knowledge in sustainable ways, making science education an essential tool in shaping environmentally conscious generations. Through effective science pedagogy, sustainability becomes an integral part of science education, ensuring that students not only grasp scientific concepts but also develop the mindset and motivation to contribute to a more sustainable world.*

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# Soft Skills for Employability: Review of Curricular Pedagogies

**Asiya Nasreen**[1]

**Abstract**

*The quality of education is an important element in shaping as well as creating a knowledge-based society of the 21st century. Higher educational institutions or universities impart education and equip the youth with the skills that foster employability through their curriculum. The present paper reviewed the curriculum and pedagogies used for soft skill development of a management course in a central university in New Delhi. A qualitative approach was followed to explore course components that facilitate skill development and impact employability. The findings highlighted that the courses of the curriculum facilitated skill development among students through on-campus and off-campus pedagogical strategies. The evidence of being skilled indicated from campus hiring and lateral hiring of the students and alumni placed in prestigious organizations in the public and private sectors*

***Keywords:*** *Curriculum, Soft Skills, Skill Development, Employability, Human Resource Management.*

## Introduction

In the knowledge-based world, rapid and diverse changes are witnessed in all domains of life be it personal or professional. Curriculum followed in educational institutions makes the learner literate and equips them with the knowledge and skills to accept the challenges and responsibilities of adult life. The term skill generally refers to the ability of a person to do a particular task. Skills have become a powerful descriptor for professional practice as they incorporate proficiency to perform activities related to the functions of a job but also indicate the ability to convert proficiency into actions. The demand for a skilled workforce is on account of internationalized operations, and innovation in processes and products, that are shaped by technology. The availability of industry-specific skilled professionals bridges the gap between knowledge and skills. There has been incongruence between technological advancement, and business requirements that call for improvement in the professional skills (Asonitou, 2015; Dessler 2013). Another reason for skills to be at the forefront is that they have become

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instrumental in dealing with the challenges brought in by internal and external environments affecting employment scenarios and hence critical in seeking decent employment opportunities for professionals who graduate from colleges and universities.

The concept of skills is relevant for all disciplines including human resource management (HRM) which is an integral function of almost every organization and human resource (HR) managers are responsible for having employees who can perform their job in the best possible manner. With shift towards knowledge work, managers look forward to people who can be an asset and whose expertise can benefit the firm and can manage the changes in functional areas of HRM with new skills and competencies.

**Soft Skills and Employability:**

In the discipline of HRM, Brockbank & Ulrich (2003), mentioned, "HR competencies are the values, knowledge and abilities of HR professionals". The scholars (Schoonover, 2003; Ramlall, 2006; Sanghvi, 2007; Ulrich, 2017) have also identified and classified skills for human resource professionals. The various identified skills have been categorized as organizational, core, technical, behavioural, functional and management skills. Within the classification given (Ulrich 2017, Sanghvi, 2007), behavioural skills are also understood as soft skills. It has become imperative to master them due to the changed needs of organizations, industries and customers and adoption of the hybrid mode of work. As a proactive response individuals should upskill and reskill themselves to manage skill gaps (Wilde, Smith & Clark, 2021). Soft skills are also termed as human-centric skills, people-related skills or social skills and include communication, critical thinking, creative thinking, adaptability, managing stress, emotions.

Research studies (Palanithurai, 2014; Succi &Canovi, 2020; Abbasi, Ali & Bibi, 2018) highlighted that graduates with soft skills have assumed greater relevance over the last decade as they can take individual responsibility and adapt to the changes in the labour market and improve their employability. Job profiles are now competitive wherein the sustainability in the job market depends upon the adoption of technical skills in a humane manner (World Economic Forum, 2020; McKinsey & Company, 2023).Polakova et. al, 2024 explored the importance of soft skills, their categorization and practical demand. The findings validated the demand for soft skills and individuals who possess both soft and digital skills in a balanced manner could cherish technological advancements.

Holmes, 2013 (as cited in Clark 2018) mentioned that the students demonstrate employability by presenting themselves as a human capital, social capital and developing career progression skills. These are skill sets and attributes required to gain employment, demonstrate educational experience secured through the university attended, degree attained, and level of achievement and an ability to adapt as an employee. In operational terms, graduate employability is perceived to be linked with the acquisition of basic skills which are required by employers. It is not only the labour

market conditions but the skills like reflective thinking, scholarship, moral citizenship and lifelong learning as some of the key elements for being an employable graduate (Steur, Jansen & Hofman, 2012).

The institutions of higher education or universities have the tremendous responsibility of churning out graduates with employability skills. Academic curriculum is the medium through the universities transact soft skills to students across various disciplines as the behavioural attributes of human capital are the same regardless of the sector or position held by the incumbent, nature of organization in which people work or the type of employment in terms of permanency or being tenurial.

**Methodology**

With this backdrop, the present paper has reviewed the curriculum of a management course titled M. A. HRM management offered by a Central University with the **objectives:**

1. To understand the various course components and pedagogies adopted for the transaction of skills and
2. The impact of curriculum on employability

**Methodology:** A qualitative approach has been followed that includes a collection of information from primary and secondary sources. The latter included a review of the course curriculum of the selected course, records of the student's internship, NAAC reports, annual reports and other relevant academic documents. The benchmark information was collected from the 10 students who passed out during the last 3 years through snowball sampling. They were contacted to provide information about the job profile on which they were working currently, the relevance of transacted employable skills during the course duration, application of specific skills for executing roles and responsibilities.

**FINDINGS**

**1. Review of the Curriculum**

The course of M.A. Human Resource Management is a four-semester course with theory and industry internship in each of the semesters. It is anchored in the department of social work of the Central University of Jamia Millia Islamia. The full-fledged Master's program was rolled out in 1993 as an offshoot to one of the specializations named 'Labour Welfare and Industrial Relations' that was offered through the course of Masters in Social Work. The job placement of students opting for the said specialization was inspiring during that period preceding the launching of the course. As an outcome of the industry demand and evolving needs of the dynamic business environment, the course was designed in line with the UGC curriculum after consolidating the experiences and observations of the concerned faculty members and a course curriculum titled M.A. Human Resource Management was started whose passing out graduates were equipped with business knowledge embedded in a human-centric approach. The broad objective

of the course is to develop human resource professionals with knowledge, skills and attitudes that are desirable for performing functions of human resource management and executing varied practices. The syllabus is outcome-based with specific **l**earning outcomes for each paper that are driven by the requirements of the industry and business needs.

In each semester, the course comprises four theory papers and one field work training or industrial training and a dissertation together making a total of twenty-one papers. The courses are designed and developed to incorporate conceptual and abstract knowledge about the discipline as well as multidisciplinary courses have also been included. The conceptual papers help in providing foundational knowledge about HRM whereas multidisciplinary helps in combining knowledge of multiple disciplines and develops different ways of thinking about the subject. Some major milestones in the journey of course creation and development include:

**Continuous Syllabus Revision:**

The curriculum is subjected to continuous revision exercises to align the syllabus with newer contextual realities. Initially, it was transacted in an annual mode, then shifted to the semester system in 2012 following the UGC curriculum and credit framework. Another revision of the course curriculum took place after five years in 2017, and an updated curriculum was launched to abreast it with industry expectations. The review of curriculum has been through intense academic exercises by the creation of a Subject Expert Committee for each of the courses through Staff Council Meetings followed by acceptance through Board of Studies. Besides internal stakeholders, feedback and discussions with external Stakeholders from Industry, Alumni and Students was sought for updating and finalizing. To illustrate, the concurrent internship was initially carried out throughout the year for two days a week in an annual system. Then, with the onset of the semester system, it continued as a concurrent block field work training for a period of one month, which after the third curriculum revision exercise was enhanced for six weeks as per the inputs from the industry professionals in 2017 -18.

**Pedagogies for Skill Development**

A. **Theoretical inputs:** The course begins with a week-long orientation program for newly admitted students to familiarize them with the course structure, content, faculties, assessment procedure, rules and regulations and other information for the students. It is followed by classroom teaching that include lecture method, case study method, tutorial, assignment, and presentation. The two dedicated courses on skill development focus on developing soft skills like communication, business communication, business etiquette, stress management, self-awareness, time management etc. These courses are transacted via experiential exercises like role play, simulation and, hands-on training so that the young students can understand the importance of practice skills that have relevance for performing routine work as professionals.

**B. Corporate internships:** The flow of skill development through this mode is gradual in the sense that in the first semester, several interfaces with industry or working professionals are organized on the campus to acquaint students with the different soft skills like time management, stress management and the roles, functions and practices of HR professionals. During the same period, industrial visits are also arranged across varied settings. Then from the second semester onwards, each of the students undergo a compulsory concurrent block internship for hands-on training as per prescribed objectives laid in the curriculum. The broad purpose of the internship includes orientation about the profession of HR, its practices and functioning in different complex organizations. The students also understand their abilities and shortcomings that enable them to handle human resources in actual work scenarios.

**C. Extra-curricular activities:** Industry experts are invited for additional academic activities like extension lectures, conclaves, and workshops on recent trends in HR like HR analytics, artificial intelligence etc to maintain pace with recent trends in the profession while outlining the skill requirements.

II. **Knowledge and Skills gained**

What specific knowledge and skills were developed among students through curricular pedagogies? The content analysis of student's internship records and records of skill development classes provided information knowledge and skills gained and the contextual application of skills. The details are described below:

- Familiarization with the various types and sizes of organizations working in various sectors like IT, manufacturing, non-financial banks, and FMCG enabled us to know about the various services provided by the respective organizations and the role of HR. It also helped them to know the application of different technical tools like HRIS, and ERP used for digitizing organizational data and employee services.
- Gained knowledge of end-to-end recruitment and the selection process developed knowledge of the application of different technical tools used for recruitment, specific to the companies. Other functional areas like employee engagement, performance appraisal, etc were also explored which helped them to use formal and informal communication, be more patient while dealing with others, adapt to work situations, handle stress and workload situations, and be prepared to handle challenges as an HR professional.
- The participation in regular functional practices helped in testing the business communication skills relating to drafting and sending emails, and preparing powerpoint presentations for official purposes.
- The internship with public sector undertakings (PSUs) provided exposure to the well-defined hierarchy of employees and subtly helped in learning the skills of conflict management, documentation and official communication like drafting ‘Official Circular Notices’ with the most accurate details and cross-references.

- Data of employees was handled for various reasons like maintaining and updating list for seniority, superannuation, voluntary retirement, resignation, appraisals and rewards etc. Data management helped in practicing skills related to MS Excel, filing and indexing of documents while maintaining the confidentiality of the organizational data.
- At the personal level, developed professional attributes of punctuality, time management, adhering to disciplinary requirements, meeting deadlines, accomplishment of tasks assigned and accountability. While dealing with others, the students realized the importance of professional values like fairness, respect, inclusiveness and a professional attitude like not engaging in irrelevant conversations, arguments, or making personal comments. Efforts were made to remain cautious of behaviour at the workplace by not violating work ethics and being helpful to others. For example, During situations of leave or absence, cover up other member's tasks for the day and take over their calendar for the day.

Thus, different components of the curriculum provided updated business knowledge and developed soft and technical skills that facilitated the students to be employable.

## III. Employability

The evidence of the syllabus of the course being outcome-based is reflected in the placement reports as around 50 percent of the students get job placements through the campus placement process while the remaining students get jobs within a few months after passing out from the course. Currently, alumni are placed in eminent positions in reputed corporates, PSUs and startups. These passed-out students provided benchmark evidence about skills gained during course duration and fitness of the curriculum. The selected students were mostly appointed through campus placement and had been working in diverse sectors like Food and Beverages, IT and Manufacturing. The appointment was mainly for varied HR job profiles that included Learning & Development Executive, Lead HR - Compensation & Benefits, Recruitment, Performance Management System, Talent Management, Functional Lead - Talent Management and Talent Acquisition, Deputy Manager Talent Management and Engagement, HR Trainee and HRBP.

Regarding the HRM Curriculum's relevance to transact skills that helped in the execution of current job responsibilities, it was informed by every participant that the curriculum ingrained skills that helped them to get onboard with their job. *According to students*, specific skills that helped them included interpersonal and business communication, skills for assessing training needs for conducting training programs, decision-making, the ability to conduct recruitment drives, and developing systems to evaluate and improve employee performance engagement practices for better outcomes at workplaces. The other skills included preparing and using PPT, Excel, Data Analysis and data management, stakeholder management and compensation. The students recalled that courses within the curriculum that transacted relevant employable skills were skill development, Training and Development, Performance Management, Management

Research, Talent management. Compulsory corporate training has been considered as the USP as its experiences were utilized whenever and wherever the need arose.

**Discussion**

Skills help to create intangible value besides getting a job and performing it well. Skill development transforms a student into a human capital strategically by building the capacity to succeed in diverse jobs. Human capital includes skills, knowledge and behaviors, mostly soft skills that inform acquaintances about how a job role will be performed effectively. The institutions of higher education or Universities influence employability through curriculum. It is a document that creates a framework for the transaction and development of knowledge and skills among students and is the reference point for learning outcomes. The reviewed curriculum is holistic and inclusive. It included the philosophy, vision, mission of the course including its plan, purpose, pedagogy and learning outcomes. It can be corroborated by the fact that over the last two decades, the curriculum has been restructured and revised thrice to align it with labour market requirements and infuse required employable skills. The academic content is a blend of theoretical and experiential learning that enables the young HR passing graduates to acquire and hone relevant employable skills like interpersonal and business communication, alongwith professional attributes and values. The skills learned in classroom situations were amplified in real work situations through concurrent block internships. The rising demand to supply employable graduates has been adequately responded with continuous syllabus revision. Hence, the curriculum rightfully recognizes skills development as a strategic tool to handle the dynamics of the business environment and churn adaptable and problem-solving professionals (Clarke, 2018) ensuring that universities can transact skills for sustainable livelihood (Subashini, Mehar & Rao, 2021; Gupta, 2021; Siddiqui, 2021).

**Conclusion**

The reviewed curriculum of the course of HRM is evolutionary as it has been able to capture and incorporate the changes in the domain and discipline of HRM. The core courses, multidisciplinary and skill development courses and compulsory corporate internships structured within the curriculum are a strategic response to creating self-motivated, self-initiated candidates possessing soft skills and technical know-how. The expectations of employers from young hires in terms of the desired knowledge and practice skills are adequately fulfilled through the curriculum.

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# Adapting a Constructivist approach to Online Learning: Exploring Emerging needs and the Way Forward

**Sneh Bansal[1] & Savita Sharma[2]**

**Abstract**

This paper seeks to explore the conceptual insights by highlighting the ways in which social constructivist learning can be fostered in an online learning for enhancing instructional effectiveness. The pandemic has impacted the teaching learning scenario across countries in an unprecedented manner. With the mandate of switching from offline to online teaching in no time, the journey has been a challenging experience for many of the stakeholders. There have been numerous research studies reporting the concerns and issues faced by the educators at various levels in the online context. The detailed exploration of findings, as reported by the researchers, indicate that most of the challenges being faced are due to lack of orientation and preparedness of the educators to adapt constructivist paradigm for online learning so as to make the experience meaningful and engaging for learners. Thus, the first part of the paper explores the potential of certain strategies and methods to facilitate a constructivist approach to better prepare the teachers for the online teaching environment. Systematic review of the recent research in the area of online learning also indicates the need of designing a course that develops teachers' competencies in fostering students' engagement in an online environment of learning through constructivist approach. In light of this emerging need, the second part of the paper put emphasis on the design and structure of the six weeks Massive Open Online Course (MOOC) on *Constructivism in Online Learning*. The review of literature and reflective observations of the authors inform the base of the aforesaid course that has been developed under OER4BW initiative by UNESCO. The course aimed at enhancing the potential of the participants with the skill of designing and implementing specific techniques for applying the instructional principles of constructivist approach needed in quality online learning environment.

***Keywords:*** *Constructivist Approach, Online Learning Environment, Students' Engagement, MOOC and OER*

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## Introduction

Humanity has witnessed an unprecedented challenge of its kind in the form of Covid-19 pandemic. The profound impact of the lockdown was being experienced across countries on invariably all the sectors including Education. Lockdown had drastically changed the landscape of academia with teachers and students being equally impacted. As per year 2020 data, over 1.5 billion students and 63 million educators in 165 countries have been influenced by the closing down of educational institutions (UNESCO, 2020). Having said that, the sudden and abrupt shift from traditional to online mode of learning had made stakeholders, explore the untapped potential of technology, though with its own set of challenges.

There have been number of studies over the past couple of years reporting these challenges as encountered by educators, learners, parents and educational institutions in particular. The time has also made the education community reflect on many important lessons learnt as we move to the new normal where online learning has become an integral part of teaching learning dynamics (Baruah, 2020). In this new normal, the sudden makeshift approach to meet the emergency response with technology in no time is very different from a systematic integration of the technology into the instructional process keeping individual learning needs and psychological basis of effective learning (Olasile and Emrah 2020). There were number of challenges ranging from infrastructural issues, lack of systematic guidelines and organizational support, absence of interest and active engagement of learners, rising mental health concerns due to missing social interaction to name a few.

Looking at the challenges from teachers' perspective, they ranged from lack of ICT literacy and skills and technological support to students' inaccessibility to the internet (Rusmiatietal., 2020). The biggest challenge as reported by teachers was concerning the instant switching over to online teaching, leaving them unprepared without any handy material or a workable set up (Hermanto and Srimulyani 2021). This lack of readiness was also reflected in thearea of devising of suitable instructional strategies for online instructions (Yusuf and Jihan 2020). As for many of the teachers, this was unexpected, lack of experience in the online teaching became a very time consuming process with lots of efforts being invested in ensuring students' active participation and engagement (Pandit and Agrawal 2021).

To further add to this, one of the very critical areas that are reported by the researchers has been lack of engagement among the learners in an online set up. Student engagement here implies to the extent of physical energy and time being spent by students on different activities as part of academic experience (Kuh 2003). Student engagement is one of the key components of effective student centered learning and is directly related to the principle of active learning as the base of constructivist approach (Sun and Chen 2016).

**Constructivism as an approach to Learning**

Constructivism as a prominent approach of learning lays emphasis on the centrality of previous knowledge in acquiring knowledge of new concepts. In other words, According to this theory, the individual learn the new information by adding on to the already learnt schemas through previous knowledge. In this process of making sense of the new learning by making connections with the past experiences requires an active role of learner in learning process (Duffy and Cunningham,1996). The instructor acquires role of facilitator and therefore the emphasis shifts from educator being the transmitter of knowledge to creating a learning environment where the learner finds appropriate opportunities to actively and proactively engage in the process with a sense of ownership (Ornstein and Hunkins, 1998).The thrust of constructivist pedagogy is on experiential learning, social interaction and collaborative projects, individualized learning with flexibility and autonomy. Further, critical thinking and reflection based meta cognitive skills are particular focus to acquire meaningful learning experiences in the constructivist paradigm of learning (Huang 2002).

Constructivist approach of learning is not a new theory but it has gained prominence particularly in past two decades. In light of the knowledge explosion in the backdrop of rapid technological advances, the context of application of constructivist approach has taken a new perspective especially during and the post pandemic scenario where online learning has become indispensable and students' active engagement has become, critical challenge.

**Teacher Preparedness for adapting Constructivism and ensuring Student Engagement in an Online Learning Environment**

Teaching in online setup is considered by experts as area to be mastered. It requires unique skill sets and capabilities. The modalities and role of an online instructor viz a viz the appropriateness of online delivery are different from that of an instructor in that physical mode considering the nitty-gritty of student engagement (Ko & Rossen, 2017, Muthuprasad etal., 2021). Educators teaching online have to focus on time and space used for instructions, management techniques in the online setup, and the ability to engage learners with virtual communication (Easton, 2003).

In this regard, Martin et al., (2019) also described four areas for instructors' competencies for online teaching which include designing of the course, course communication, and managing time along with technical skills. Further Maini and Agrawal (2021) in a study that intended to explore students' engagement and satisfaction during COVID-19 pandemic in the virtual classes, reported that as part of independent variables of the study, structured approach adapted by the teachers and their technical readiness significantly influenced learners' engagement and satisfaction towards online classes happened in synchronous mode. Further, Eslaminejad et al., (2010) also reported in their research that faculty should continuously be offered training to upgrade their information technology knowledge and skills over time in order to deliver effective instructions. In addition, their study results indicated that

pedagogical innovations are required to develop and implement an effective e-learning program. Research done by Zweig,J.& Stafford, E. (2016) reveals that teachers may need additional training in multiple areas in order to best support their students in the online set up and more rigorous research is needed to effectively implement the online instructional practices that not only enhances students engagement but their learning performance and outcomes are also attained. Similarly Study conducted by Abid and Shahid (2021) with the objective to explore the lived experiences of university teachers who participated in online teaching for the first time during the COVID-19 pandemic, also report that the faculty prioritized to focus on immediate online instructional matters in the wake of the pandemic with a lack of emphasis on global practices for online learning.

To summarize, the researches in the area, it presents a considerable level of unanimity indicating the crucial need to provide a strong support in the form of guided orientation and hand holding to empower the teachers for effectively incorporating constructivism based instructional strategies to ensure active student engagement in the online set up.

**Research Questions and Methodology**

With emergence of lack of students' interest and engagement as the very significant area of concern in the online teaching and teachers' preparedness as one of the major underlying factors, this paper has two fold objectives.

1. To discuss the evidence based strategies and methods to facilitate a constructivist approach to better prepare the teachers for the online teaching environment
2. To analyze the broad components of the MOOC, 'Constructivism in Online Learning' offered as part of OE4BW initiative, with regard to the key objective of building capacities of the teachers to create constructivist leaning environment in online set-up

The extensive review of literature and inputs from the personal journey of the authors during the pandemic phase of online teaching are the bases of explorations and recommendations as put forward in this paper with reference to the stated objectives.

**Personal Journey of theAuthors–Sailing through the pandemic with an impact**

The ground level experience of two authors of this paper working as a principal and faculty member respectively at the teacher education institutions in Northern India during the pandemic will help the readers to reflect upon their teaching-learning practices in an online learning environment.

**Personal Journey of Author1**

**Reflection of my experience as a Head to manage the teacher education programme during pandemic in an online learning environment:**

Being an educationist and leading an institution before me was the big question: What are the alternative educational system and assessment strategies required to respond to

this emergency of a pandemic to ensure the continuity of the academic semester through online teaching? In this section, I will be sharing my perspective on what worked in the emergency situation but most importantly the process of online practice been adopted to create an effective teaching learning ecology that result that had from careful instructional design and planning.

**Get Set and Go for New Session**

To begin with conference calls were held with teachers to motivate them, to sensitize for a different kind of education i.e., life over learning. The team came happily to recommend their ideas for coming out of genre of subject teaching to being facilitator for developing skills to overcome the ongoing challenges.

Beginning of the new Sessions also has the biggest challenge as the students are not familiar with the institution work culture and do not have face to face interaction with the faculties leading to lots of confusion and doubts in the mind of new batch.

This time orientation was been conducted online with due emphasis on emotional support to be provided fully to the students. Initially, students were bit nervous and anxious for their studies but personally as a head I counseled them by arranging online sessions daily which included sharing short stories, biographies of eminent personalities / life philosophy which actually worked tremendously. Slowly they felt comfortable. Google classroom (LMS) was created along with the whatsapp group with small counseling groups designated to each faculty to individually take care the needs of each and every student holistically.

We focused initially on family values, health hygiene, emotional and social skills enhancement etc. so that insecurity or anti society habits do not get infused in mindset of pupil teachers. We encouraged the students to get involved in some concrete tasks like exploring hobbies, helping others, online skill learning and acquiring new skills. Many students learnt painting, instrumental music, Shabad Gayan, rap, songs composing, designed new clothes, lyric writing, gardening, art & craft etc.

We prepared videos, posters, songs, mimes' skits, etc., and sent schedule of activities according to age group to parents imbibing positive thoughts and motivational lines as *parents are to be the teachers and so far, being "teachers "were to be the resource.* The proposed schedule had time slots for exercises like Yoga, aerobics, games, watching TV, study time, art /craft, family time, helping in household activities fun activities, story time, meditation etc. We held live sessions of these activities and invited parents and students to join sessions like of yoga, aerobics, taekwondo, meditation art and craft, cooking etc. We encouraged students to prepare portfolio on activities and the learning experiences that they were undergoing. Teachers keep on interacting with the students through blogs, chat, forum, web conferences or video conferences, social networks that supported the students in affectively engaging and participating in all the academic and non-academic activities and lead them to eliminate fear of Covid-19 isolation, being away from peers hovering over their minds. Counseling sessions were held with parents on how to keep family atmosphere happy congenial and compassionate in testing times.

Some parent volunteers sent the videos of activities done with children and also gave suggestions. Academically, teachers prepared revision assignments from the previous grade level and focused on experiential learning.

**Getting ready for Internship**

Internship is very significant part of any teacher education program. It provides pre-service students the hands-on exposure and skills required to become a competent, dedicated and professional teacher. Though there were no physical classes in schools due to complete lockdown but virtual teaching learning practices were continuing with a thought process that if learning is possible through alternative ways in the virtual set up, so as school internship.

As per guidelines issued by National Council of Teacher Education, to Teacher Education Institution (TEIs) across India, to cope up with COVID-19 pandemic crisis, Internship and field engagement domain were suggested to be as per the direction of the affiliating body / University/ Institution under the prevailing situation. At the same time, to facilitate and support pupil teachers to ensure effective internship, we approached the schools and after their consent they were allotted with online classes as a shadow/ assistant teacher with the school subject teacher. Besides that, on our part we have prepared short video related to online learning tools- creating google classrooms, online learning tools, workshops on e-content development to make them prepare for the online classes. Weekly interaction done to discuss if any challenges had faced in online classes. One important aspect was which was personally emphasized and competence were been developed of the pupil teachers during virtual classes was how to manage the online classes for children with special needs. As NEP 2020 has focused on the capacity building of the general teacher to address the diverse needs, sessions on Universal design for learning, inclusive teaching strategies, adapted assessments, collaboration with the parents and special teachers were been conducted. Orientation with the MOOC, gamification, virtual apps, OERs, teaching learning material using VAKT approach were been part of the training for the pupil teacher.

In other way, pandemic turned blessing in disguise, we could to connect with the international educators who were invited to share their knowledge and experience on evidence based online teaching practices with the pupil teachers. World become so small and anytime any where anyone can be connected which give us an opportunity to learn, share and grow.

**Personal Journey of Author2**

The global Covid-19 pandemic has hit the entire education sector and teaching learning scenario in a massive and quite an unprecedented manner. Right from school to higher education sector, every level has encountered number of challenges and has tried to cope with them in their own unique and creative ways. With specific reference to teacher education institutions the pandemic period was an eye opener with a sense of immediate and urgent need to prepare the future teachers for the soon becoming new normal learning scenario characterized by the term VUCA: Volatility (the nature, speed,

volume magnitude and dynamics of change); Uncertainty (the lack of predictability of issues and events); Complexity (the confounding of issues and surrounding factors); and Ambiguity (the haziness of reality and the mixed meaning of conditions) (Horney, Pasmore, and O'Shea 2010).

With such expectations, teacher training institutes all across India came up with their own innovative experiments to equip the pre service teachers with required knowledge and skill set. With a sense of uncertainty, confusion and vulnerability, my institution headed towards the lockdown and thereby a complete switch to online classes at the end of March2020. The journey had been full of reflections and transformation. Like in other teacher education institutions, the institute where I am currently been placed, apart from the regular teaching related concerns, one of the critical challenges had been to impart quality school internship experience to its trainees in the backdrop of schools being functioning most of the times in an online mode. In this section, two of the best practices being adapted by me viz a viz the teacher training institute incorporating critical aspects of constructivist approach in an online set up are being covered.

In absence of any set of formal guidelines, majority of the teacher education institutions havd devised their own strategies to compensate the real time experience of school internship. In an attempt to provide more enriched and meaningful constructivist based internship experience, one innovative practice was adapted encompassing the virtual inter institutional collaborative program between the Dept. of Education at a state private university and a central university affiliated Teacher Education Institution. As every cloud has a silver lining, the undertaken online set up indeed, made the logistical arrangements feasible for the aforesaid internship program, with the two institutions located in faraway states. The key highlights of the program included Parallel sessions by the both institutes, technology/language integrated/ Constructivist lesson plans delivered through team teaching, digital tools and creative ideas for effective transaction, Peer observation and Feed back by mentors of both the institutes, Writing of reflective diaries and Post session discussions, Capitalizing on key strengths of each institute and bringing cultural aspects as examples. The whole venture turned out to be an extremely insightful learning experience for all the stakeholders involved as validated by the positive inputs received post the event specifically in context of bringing on table the best from the each institute through mutual dialogue and constructive feedback mechanism. Both the institution regard the exercise undertaken to be among their best practices further opening the door for many more such mutually fulfilling endeavors.

The above experience of the authors highlighted the true example of ensuring teacher, social and cognitive presence during the online teaching learning process which is linked to the constructivism approach embedded with collaborative strategies.

In the next section, the authors explored few instructional strategies that support the students' engagement.

**Instructional Strategies for Effective Adaption Constructivism in an Online Learning Environment**

Online instructional strategies refer to the methods and approaches that guide the organization of learning activities, course content, and learners' engagement in online teaching (Bonk and Dennen 2003). For digital natives and contemporary learners, this century has brought lot of unexpected change in the way they visualize the classroom discourses and the teaching learning process. For educators per se, the shift was uniquely different and challenging as discussed in the beginning of this paper. The struggles and juggles of educators around the world during the online teaching in the pandemic has brought some of the most insightful learning which are timeless and are here to stay. Majority of the instructional strategies aiming at engagement of students and overall effective learning are already based on well-established principles in the research based literature in the area of constructivism. Taking clue from Distance Learning, we can also infer for online education that "Sound distance education is the result of effective communication and instruction and adherence to coherent instructional principles" Chen (1997, 34).In this regard, Huang (2002) has identified six key principles for designing effective online instructional strategies namely interactive learning, Collaborative learning, Facilitating learning, Authentic learning, Learner-centered learning and High quality learning.

This is further advocated by Pigliapoco and Co-researchers (2008) who have provided four point guidelines for designing the virtual classroom including Active learning, Context-specific learning, Social learning and Formative evaluation.

It is important to note that, the instructional stratgeis viz a viz the selection of the technology for online learning must enable the learners to (Jonassen 2000,24):

1. Articulate what they already know;
2. Reflect on what they have learnt;
3. Develop the negotiation skills to derive meaningful learning
4. Construct personal and individualized representations of meaning; and
5. Support mindful and intentional thinking.

It is important to note that with fusion of technology into the single device (generally a smart phone) adapting the effective instructional strategies becomes convenient for the educators. Moreover the process of providing individualized instructions catering to personalized learning requirement of the learners with these adaptive technologies infused into the smaller handy devices becomes easy (Allen and Seaman 2013).

Moving forward, the specific research based instructional strategies for effective online learning are briefly described as follows:

**Enquiry Based Learning Strategy**

Enquiry based learning forms the core of constructivist approach which places the inquisitive nature of human beings at the center of learning process. Through structured

and guided explanation, learners naturally progress from known to unknown through interaction, questioning and discussion with peers and close community. Online learning can effectively facilitate enquiry based learning by providing numerous platforms for interaction and for undertaking collaborative research project. Technology can be very handy in collecting, organizing, analyzing and collaborating the data for the purpose of research (Saxena 2013). Further the learners can embark on the process of discovery with availability of required material and relavnt digital resources. Researchers have categorically recognized the importance of integrating technology including various learning management systems and tools for providing conducive and stimulating environment for engaging enquiry based learning Hakverdi-Can and Sonmez (2012).

**Project Based Learning Strategy**

Project-based learning aims at promoting the real life understanding of various phenomenon and process as they move across sequential phases. The project is usually a collaborative venture where the group works from scratch to end in order to execute specific tasks to come at the intended outcome. In the online set up, it can help in creating real opportunities through social constructivist setting with appropriate scaffolding by parents, teachers, mentors and collaborators through various digital devices and platforms (Vygotsky 1978). Moreover the systematic orientation and evaluation in the phased manner can be easily executed with technology. Social Media like YouTube, Instagram, Facebook and virtual labs can serve effective means of collaboration between people without the compulsion of coming face to face. Another benefit of online project based learning is that each and every learner, irrespective of their background will have equal opportunity to access the course material and other resources.

**Scenario Based Learning Strategy**

Scenario-based learning has a considerable possibilities in the online learning setup as compared to the over the traditional classroom. In Scenario-based learning, the content is presented in the form of interactive components and in various formats where students choose a particular response and their choice will be the deciding element in addressing an issue or solving a problem. There are many platforms like articulate 360, Adobe Spark, Mindmo to and SBL Interactive that provide number of tools which the instructor can use to create web based scenario. Artificial Intelligence and Augmented reality can further enhance the quality and richness of situation to provide a real life impact.

**Problem Based Learning Strategy**

Problem based learning or PBL is proven strategy for engaging learners by focusing on higher order thinking skills. The learner as pass through various stages, beginning with identification of problem to proposing and implementing viable solution of the problem learns various concepts and learns the skill of collaboration, critical thinking, time management, analytical and decision making skills. In an online learning environment, this can be one of the very effective strategies to engage learners in hypothetical or real

world problems with the advantage of having diverse learner profiles across the board. There are number of studies reporting the effectiveness of problem based learning in the online environment for various disciplines (Anand Charles,2008, Brodie, 2009).

**Collaborative Learning Strategy**

Taking numerous forms from computer-mediated communication to networked learning, the advent of technological revolution coupled with constructivist form of learning has given birth to online collaborative learning theory (OCL).Harasim (2012) defines collaborative learning theory as "the theory that provides a model of learning in which students are encouraged and supported to work together to create knowledge: to invent, to explore ways to innovate, and, by so doing, to seek the conceptual knowledge needed to solve problems rather than recite what they think is the right answer". She further provides three important stages of collaborative learning theory through discussion and deliberations. These stages include idea generation, wherein the process starts with the brainstorming and the purpose is to collect as many perspectives as possible within a group. The second stage idea organization wherein through discussion and argument, learners compare, contrast and categorize the data generated in the first step and the last stage of Intellectual convergence aims at reaching a level of synthesis of various points of views represented by creating a final product in the form of presentation, essay or artifact.

**Situated Learning Strategies**

Situated learning as a model of instruction and a design strategy which intends to provide a strong context of learning through the web based Web-based environment. It harnesses the potential of technology for collecting information and for further communication to the concerned people. The nine elements of situated learning as guiding principles to develop design strategies for Web based learning including Authentic contexts, Authentic activities, Access to expert performances and the modeling of processes, Multiple roles and perspectives, Collaborative construction of knowledge, Reflection to enable abstractions to be formed, Articulation to enable tacit knowledge to be made explicit, Coaching and scaffolding by the teacher at critical times and Authentic assessment of learning within the tasks (Oliver & Herrington 2000)

**Use of Gaming and Simulations**

Games and Simulations are the perfect examples of effective instructional strategies which are not learner centered but also capitalizes power of technology to create real impact of through characters and animations. For abstract concepts particularly in Science and Mathematics, these strategies can be very useful. PHET is the one of the examples that makes use of Gaming and Simulations for teaching of various concepts from Algebra, Geometry, Physics and Chemistry.

From the personal experience of the authors and researches, it has noted majority of the teachers are not employing the above mentioned strategies in their online teaching, hence it was one of the main reasons, the authors explored broadly the integration of

constructivist approach in online teaching to strengthen students engagement and make learning environment meaningful and real-life based. In the next section of the article, the authors proposed a need of developing an online course on Constructivist approach in an online environment to foster him students' engagement – a MOOC course as an OER under the OE4BW.

**The way forward-Proposing an online capacity building program for Educators**

Keeping in view the emergence of equipping school and higher education institutions faculties, the project is developed with the aim that the participants are able to understand constructivism as a learning theory and its uniqueness in teaching learning process. The project will assist the participants to create an understanding and practice of constructivist online pedagogy with intent to provide them with the competency to customize learning content for the students and facilitate their ability to construct knowledge.

The general Strategies frequently adopted in the online course include:

(1) How the interactivity is promoted by making use of asynchronous and synchronous communication (Ku et al. 2011; Lawton et al. 2012);
(2) How the application of concepts is facilitated (Steinberg 2010; Strang 2012);
(3) How the use of video demonstrations is executed(Gemmelletal. 2011);and
(4) How a powerful social presence is created with a sense of belongingness with the community (Thomas et al. 2008; Zhang and Walls 2006).

The project has covered the following learning outcomes:

- Examine the key principles of constructivist learning theory with classroom implications
- Analyze and propose the Community of Inquiry (CoI) framework , a process model of online learning environment derived from collaborative constructivist view
- Analyze the instructional strategies to support learner in an online learning
- Examine

Four key modules of the course cover the broad areas namely Constructivism in teaching learning process, Collaborative Constructivism for Online Learning, Instructional strategies and techniques for social constructivism learning and Assessment from a social constructivist perspective.

The uniqueness of the aforesaid project is that the course has been delivered using the constructivist instructional methodology in an online context. Introductory posts, Pre-survey, broadcast emails, learning outcomes, to do lists, resources, course information, FAQ, synchronous chat, discussion forum feedback by other students and facilitators, Modularize content so as to scaffold learning, quizzes, team projects with individual activities, peer review, compare and contrast activities, facilitative questions, interactive essay, facilitator evaluation of team project, unit summaries of students discussions,

project gallery, feedback, Post-survey, interactive online tools, webinars, online discussions through social media are integrated with in the project which are the real examples for the participants to effectively practice the constructivist teaching in an online learning environment. Hence the participants while assessing materials will be able to construct ongoing interpretations of their observations and collaborate with their peers. As aresult, certain best practices could be revealed and knowledge of what works best to facilitate online constructivist learning environments could be discovered.

**Summary and Conclusion**

Online learning is part of the new normal of the post- Covid teaching and learning scenario and has now emerged as the very effective mechanism for optimized learning. The challenges as been faced by the students and teachers at large represent the journey of any new change whichis hard in the beginning but eventually becomes part and parcel as we move along and discovers ways to not only overcome the resultant challenges but to learn to channelize the untapped potential of new phenomenon. In case of online learning, application of constructivist approach of learning has emerged as the catalyst, integration of which determines the extent to which the particular kind of challenges concerning students' engagement can be addressed by equipping the educators to use appropriate instructional strategies. In this regard, the paper provided a detailed overview of various online instructional strategies with strong research base along with the personal narratives of the authors who have attempted to experiment with diverse form of constructivist instructional strategies during the pandemic. Further, in light of the need of the capacity building online program for educators the paper also provides a skeleton view of the online course offered under OE4BW initiative with specific learning outcomes and week wise module details. The course is a ready-reckoner and offers a tool kit for all the stakeholders who want to equip themselves with research proven effective instructional strategies and evaluation tools to implement in their online classroom. Interestingly successful completion of the course intends to empower the learners in not only achieving the final outcomes in terms of conceptual leaning but the process itself is a walk-through and in away an effective orientation as to how to deliver an online content using innovative technological tools.

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# Exploring Internet Addiction among Research Scholars

**Rajni Bala**[1]

**Abstract**

*Internet has become an integral part of daily life. Many studies highlighted that excessive use of it results in internet addiction which* has *negative effects on human beings. This study investigates the prevalence and levels of internet addiction among research scholars. A total of 35 research scholars, comprising 24 males and 11 females, were assessed using the Internet Addiction Test (IAT) developed by Kimberly Young. The study aims to determine the prevalence of internet addiction, compare addiction levels between male and female research scholars and analyze differences between research scholars from rural and urban backgrounds. The findings reveal that while severe internet addiction is absent, a significant proportion of research scholars exhibit mildaddiction. Male research scholars demonstrated higher levels of addiction compared to their female counterparts, while no significant difference was found between rural and urban research scholars.*

***Keywords:*** *Internet, Addiction, Internet Addiction, Research Scholars*

## Introduction

In today's world, it's impossible to imagine life without the internet (Kumar et al., 2023).The Internet has transformed communications, becoming our preferred medium for everyday interactions such as ordering pizza, buying televisions, sharing moments with friends and sending pictures via instant messaging (Kumar &Ruhela, 2024).In the digital age, the internet has also become an essential resource for education, research, and communication. It holds particular importance in academia, offering researchers and scholar's access to extensive resources, global connectivityand collaborative opportunities. The Internet has significantly influenced human behavior, bringing both positive and negative effects (Lebni, 2020). However, the widespread use of the internet also presents challenges, notably internet addiction which can adversely affect an individual's psychological well-being, academic performance and social life.

The term "internet addiction" was first introduced by Goldberg in 1995. It is also known as "net addiction" or "cyber disorder" (Eichenberg & Ott, 1999 cited in Sahin, 2011),

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internet addiction can lead to insufficient sleep, prolonged periods without eating, limited physical activity, significant disruptions to studies and other daily activities (Cao & Su, 2006). Kandell (1998) describes it as a psychological addiction that predominantly affects teenagers, resulting in health issues, impaired social relationships and poor time management.

Research scholars rely extensively on the internet for academic purposes such as accessing journals, collecting data and communicating. This heavy dependence places them at a heightened risk of developing internet addiction. The demanding nature of academic work often necessitates extended periods of internet use, which can blur the lines between productive use and compulsive behavior. This addiction can negatively impact their academic performance, physical health, mental well-being and social life. The Central University of Himachal Pradesh (CUHP), a prominent institution in India, provides a unique setting to study this phenomenon among its research scholars.

**Review of Related Literature**

The review of existing literature on internet addiction provides several critical insights. It highlights the pervasive nature of internet addiction across different populations, including undergraduate and medical students, and prospective teachers. Kumar et al., (2023) conducted a cross-sectional study among undergraduate students aged 18 and above in the Union Territory of Chandigarh. The researchers found that approximately one-sixth of the participants were suffering from internet addiction, which was highly associated with anxiety and depression.Taha et al., (2019) found that medical students at Qassim University exhibited high levels of internet addiction, which negatively impacted their academic performance. The study revealed that females used the internet more frequently than males. Additionally, the majority of the sample reported feeling depressed when offline. In their research, Saville et al., (2010) observed that individuals generally exhibited low levels of internet addiction. The finding suggested that while internet use was widespread, the majority of users did not develop problematic usage patterns to a severe extent.On the other hand, Ismail et al., (2024) found that over two-third of the participants (68%) exhibited mild to moderate levels of internet addiction. Also Jain et al., (2020) concluded that 15.51% of the study subjects were classified as internet addicts, while 49.19% were categorized as over internet users.Kumar et al., (2023) found that internet addiction was prevalent among 53.6% of the participants. Those aged above 30 years showed a lower risk of internet addiction compared to those aged below 30 years.Hassan et al., (2023) conducted a study to predict internet addiction among 400 undergraduate students selected through convenience sampling. Data were collected using a questionnaire. The results indicated that there was no significant difference in internet addiction levels between genders.Cardak (2013) investigated the relationship between internet addiction and psychological well-being among 479 university students. The results revealed that students with higher levels of internet addiction tended to have lower psychological well-being, indicating a negative impact of internet addiction on psychological health. Mustafa Koc (2011) examined the relationships between internet addiction and

psychopathology among 174 university students. The findings indicated that students who used the internet for six hours or more per day exhibited more psychiatric symptoms. Those with internet addiction showed higher levels of somatization, obsessive-compulsive behavior, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism compared to students who were not addicted to the internet. Tutgun et al., (2011) investigated problematic internet usage among prospective teachers, considering various demographic variables such as gender, department and daily usage. The results indicated that prospective teachers exhibited a medium level of problematic internet usage. Additionally, significant differences were found between male and female prospective teachers in terms of problematic internet usage levels. Freshmen students were more prone to problematic internet usage compared to senior students. Furthermore, prospective teachers in the Department of Computer and Teaching Instructional Technologies were more inclined towards problematic internet usage than those in other departments, such as Science-Mathematics, Fine Arts, and Social Sciences. Several researchers, including Mlouki et al., (2024); Berte et al., (2019); Tutgun et al., (2011); Esen & Gundogdu (2010); Jang et al., (2008); have consistently reported that internet addiction is more prevalent among males compared to females. This review highlights the need to address internet addiction as it affects academic performance, psychological well-being and social relationships.

**Objectives**

The objectives of this study are:

1. To determine the prevalence of internet addiction among research scholars.
2. To compare the levels of internet addiction between male and female research scholars.
3. To analyze the levels of internet addiction among research scholars from rural and urban backgrounds.

**Hypotheses:**

The present study is based on the following hypotheses:

1. There is no significant difference in internet addiction between male and female research scholars.
2. There is no significant difference in internet addiction between research scholars from rural and urban backgrounds.

**Sample and Sampling Technique**

The study sample consisted of 35 research scholars from different departments at the Central University of Himachal Pradesh, TAB-Shahpur, District Kangra, Himachal Pradesh. Among them, 24 were male and 11 were female. To ensure the relevance of the sample, the researchers utilized a purposive sampling technique. This method was

chosen to specifically target research scholars who were actively engaged in academic research and were representative of the population under investigation.

**Instrument Used**

The data for this study was collected using the Internet Addiction Test (IAT) developed by Dr. Kimberly Young. The IAT comprises 20 items designed to assess varying levels of internet addiction, categorized as mild, moderate or severe. Responses to each statement were scored on a scale of 0 to 5in which 0 standsfor "Does not apply," 1 for "Rarely," 2 for "Occasionally," 3 for "Frequently," 4 for "Often," and 5 for "Always."

**Analysis of Data**

The collected data were analyzed statistically to verify the stated hypotheses. The collected data were analyzed with the help of percentage, mean, SD and 't' test.

**Table-1: Demographic Profile of the Research Scholars (N=35)**

| Variable | Frequency | Percentage |
|---|---|---|
| **Gender** | | |
| Male | 24 | 68.58 |
| Female | 11 | 31.42 |
| **Locality** | | |
| Rural | 16 | 45.71 |
| Urban | 19 | 54.29 |
| **Stream** | | |
| Science | 04 | 11.42 |
| Humanities | 31 | 88.58 |
| **InternetUsage** | | |
| Daily | 35 | 100 |
| Weakly | 0 | 0 |
| **Frequency of Internet Usage** | | |
| 0-2hrs | 7 | 20.00 |
| 3-5hrs | 17 | 48.57 |
| 6-8hrs | 11 | 31.43 |

The table-1 indicates the demographic profile of the research scholars (N=35) reveals several key characteristics. The sample consisted of 24 males (68.58%) and 11 females (31.42%). Regarding locality, 16 scholars (45.71%) were from rural areas, while 19 scholars (54.29%) were from urban areas. In terms of academic streams, the majority of the scholars, 31 individuals (88.58%), were from the humanities, with only 4 scholars (11.42%) coming from the science stream.

Regarding internet usage patterns, all 35 scholars (100%) reported using the internet daily, with none indicating weekly usage. In terms of frequency, the duration of internet use varied among the scholars: 7 scholars (20.00%) reported using the internet for 0-2

hours per day, 17 scholars (48.57%) used it for 3-5 hours per day, and 11 scholars (31.43%) spent 6-8 hours per day online

**Table-2: Prevalence of Internet Addiction among Research Scholars**

| Variable | Frequency | Percentage |
|---|---|---|
| Normal | 02 | 5.71 |
| Mild Addiction (20-49) | 22 | 62.86 |
| Moderate (50-79) | 11 | 31.43 |
| Severe (80-100) | 00 | 00 |
| Total (N=35) | Mean = 39.71 | |

Table-2 illustrates the prevalence of internet addiction among 35 research scholars. Of these, 2 scholars (5.71%) were categorized as having a "Normal" level of internet use, showing no significant signs of addiction. The largest group, consisting of 22 research scholars (62.86%), exhibited "Mild Addiction," with scores ranging from 20 to 49, indicating moderate internet use that still falls within the mild addiction category. Additionally, 11 scholars (31.43%) were identified with "Moderate" levels of addiction, with scores between 50 and 79, suggesting concern but not reaching severe levels. Notably, no scholars were found to have "Severe" internet addiction, with scores between 80 and 100.

The average score of the sample is 39.71, which falls within the "Mild Addiction" range on the test. This suggests that the research scholars exhibited a moderate level of internet addiction. The average score indicated that their internet use was somewhat above the normal range, but it did not suggest severe addiction. This trend reflected a pattern of internet use among the scholars that was moderate, without reaching the levels of severe addiction.

**Table-3: Comparison between Internet Addiction of Male and Female Research Scholars on Internet Addiction Test**

| Gender | N | Mean | SD | 't' Value df =33 ) | 'p' Value |
|---|---|---|---|---|---|
| **Male** | 24 | 43.33 | 13.96 | 2.49 | 0.031 |
| **Female** | 11 | 31.81 | 9.92 | | |

Table-3 compares the internet addiction scores of male and female research scholars using the Internet Addiction Test. The analysis showed that male research scholars had higher internet addiction scores than their female counterparts. The t-test results indicate a statistically significant difference with a p-value less than 0.05 suggesting rejection of the null hypothesis. Specifically, the mean score for male scholars was 43.33 with a standard deviation (SD) of 13.96, while the mean score for female scholars was 31.81 with standard deviation(SD) of 9.92. This difference in mean scores suggested that male scholars exhibited higher levels of internet addiction compared to female scholars.

**Table-4: Comparison between Internet Addiction of Urban and Rural Research Scholars on Internet Addiction Test**

| Locality | N | Mean | SD | 't' value ( df =33) | 'p' value |
|---|---|---|---|---|---|
| **Rural** | 16 | 41.50 | 12.49 | 0.69 (N.S) | 0.490 |
| **Urban** | 19 | 38.21 | 14.97 | | |

Table-4 presents the internet addiction scores of research scholars from urban and rural localities. The sample included 16 rural and 19 urban research scholars. The mean score for rural research scholars was 41.50, with a standard deviation of 12.49, while the mean score for urban research scholars was 38.21, with a standard deviation of 14.97. The t-value for the difference between the two groups was 0.69, with a p-value of 0.490. These results indicated that there was no statistically significant difference in internet addiction levels between rural and urban research scholars. Therefore, the locality of the research scholars did not significantly influence their level of internet addiction.

**Results & Discussion**

The findings of this study provide valuable insights into the prevalence and levels of internet addiction among research scholars at the Central University of Himachal Pradesh. The result exposed the following core findings:

1. **Moderate Level of Internet Addiction:** The study concluded that there was no evidence of severe internet addiction. The majority of the research scholars (62.86%) exhibited a mild level of internet addiction, while 31.43% showed a moderate level of addiction, with no cases of severe addiction observed in the sample. These findings align with those of Acharya et al., (2023), who reported that 47.7% of students had a mild level of internet addiction and 27.9% had a moderate level of addiction. Similarly, Kuss et al., (2013) found that only 3.2% of students were classified as addicted to the internet, and Menon et al., (2018) also reported no cases of severe internet addiction among students. In contrast, Mohamed et al., (2024) found a higher level of internet addiction among medical students
2. **Gender Differences:** The analysis of gender differences in internet addiction revealed that male research scholars exhibited significantly higher addiction scores compared to their female counterparts. This finding is similar to the results of Shan et al., (2021) and Xin et al., (2018). However, this finding contradicts the conclusions of Dutta & Karmakar (2024) and Anderson et al., (2017), who found that men had lower levels of internet addiction compared to women. Additionally, Mohammadkhani et al., (2017) reported no significant difference in internet addiction levels between males and females.
3. **Urban and Rural background:** The comparison between rural and urban research scholars did not reveal any statistically significant difference in the levels of internet addiction. This suggests that the place of origin (urban or rural) does not play a

major role in determining internet addiction levels among research scholars in this study. This finding aligns with the results of studies by Lavanya & Vaishnavi (2022) and Debbarma &Umadevi (2019), who found no significant difference in internet addiction levels between rural and urban areas in their samples. In contrast, previous research by Hooda & Devi (2014) concluded that urban college students exhibited a higher level of internet addiction compared to rural students. Additionally, Salunkhe et al., (2021) reported that the prevalence of internet addiction was 65% among the urban population and 70% among the rural population.

In conclusion, this study underscores the widespread yet controlled use of the internet among research scholars, with significant gender differences in internet addiction levels. While the locality of the scholars does not appear to have a significant impact on internet addiction, the slightly higher scores observed among rural scholars suggest an area for further exploration. These findings enhance our understanding of internet addiction in academic environments and lay the foundation for developing strategies and policies that promote the well-being and academic success of research scholars.

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# Indian Knowledge Systems: Relevance and Integration in Modern Education

**Mamta Singhal**[1]

**Abstract**

*The idea of Indian Knowledge Systems (IKS) has become a very prominent subject of discussion in the academic circles ever since it was mentioned in National Education Policy (NEP-2020). There are workshops, conferences, curriculum revisions and implementation exercises throughout the nation on the broader theme of IKS. It appears that after centuries of ignorance, there is an awakening of something very 'significant' that has the potential to take our nation towards recognition as the Vishwa guru and on the path of development. While, there is no doubt about the presence of a vast and rich treasure of knowledge in various fields such as medicine, architecture, engineering, and education; it important that not only we integrate this knowledge and ways of knowing with the mainstream education, we provide the right content, make it understandable and relevant in the present context.*

***Keywords:*** *Indian Knowledge Systems (IKS), Education, National Education Policy (NEP-2020)*

## Introduction

When we are committed towards the cause of rediscovering and bringing our ancient wisdom in the mainstream education, we should answer a few questions.

(1) What is IKS and why it is relevant in today's context?

(2) How to integrate IKS in education?

(3) How to ensure that integration of IKS is not merely a short -lived euphoria but is a sustainable and universal phenomenon.

## Indian Knowledge Systems (IKS) and its relevance for Education

The Indian knowledge systems or Indian Schools of thought or *Bhartiya gyan parmapara* basically is a system of knowledge rooted in ancient Indian texts such as Veda, Upanishads, Itihaas, and Purans to name a few. It is to be noted that we have 4 vedas

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(namely *Ṛigveda, Yajurveda, Sāmaveda, Atharvaṇaveda*); 6 vedangas (*namely Śikṣā, Kalpa, Vyākaraṇa, Chhandas, Niruktam and Jyotiṣa*); 18 major purans and 18 minor purans; 108 upnishads out of which 10 are considered principal upnishadas; 6 darshans and then other scriptures of knowledge such as *Geeta*. These texts are massive, ancient, and written mostly in Sanskrit originally. It is therefore a challenging and highly responsible task to rediscover and recreate the knowledge stored in these texts in most truthful and comprehensible manner. Also, all these texts were written in social, religious, and historical contexts of those times and hence it is neither desirable not feasible to use them as it is. However, the knowledge and learnings from these texts have immense potential to solve some of today's problems. The texts also represent the rich cultural heritage of India and it important to integrate it with mainstream education to build a sense of national pride in every citizen.

Broadly speaking Indian philosophical traditions or Indian thought systems can be categorised into six main orthodox (*Aastik*) and five heterodox(*Nastik*)schools. The orthodox schools accept *vedas* as the valid source of knowledge while the heterodox schools do not consider *vedas*as the source of knowledge.The orthodox or aastika tradition consists of six main schools which are:

- ***Samkhya***: *Samkhya* or dualistic school believes that reality consists of two independent elements-*Purusha (* spirit of consciousness ) and *prakriti* (nature or matter including emotions). The living beings *(jiva)* are combination of *purusha* with *prakriti* and the state when this bond between the two is broken is liberation. The *Samkhya* school advocates that there are three reliable means of gaining knowledge. These are pramanas or proofs. These three *pramanas* are called *pratayaksh* (perception); *Anumana* (Inference) and *shabda* (testimony of words). The various concepts of *Samkhya* philosophy are relevant for modern education also. The integration of various concepts of *Samkhya* philosophy into education can foster critical thinking, ethical values, critical thinking, respect for nature and inspire learners for spiritual growth.
- ***Yoga*** : Yoga which was earlier a part of *Samkhya* school became a distinct school only in the first millenium of CE. The first documentation of the word yoga with the same meaning as modern times is known to be in *katha upnishads.* Though yoga developed as a systematic practice between 3rd and 5 th century BCE, the largest well known text on yoga is *Yoga Sutras of Patanjali* dated around the early centuries of common era. Yoga is also one of the six orthodox philosophical schools of Hinduism and part of Buddhist traditions especially meditation techniques. The other sources in ancient times that describes the significance of yoga in different forms are *Bhagvadgita, Ling purana, Braham Sutra Bhasya of Adi Shankra* among several others. In the modern times, yoga gained prominence through its western influence in mid 19th century where the educated public in general paid attention to the benefits of yoga in various forms. Yoga is practiced in various forms in all Indian religions but the modern form of yoga which is more about physical postures while focusing on breath is most popular.

Whether or not, yoga fits into the current paradigm of modern science, the practice of yoga has been documented in various research journals and books and is well recognised for leading a holistic life. The various postures(*asanas*), breathing techniques(*pranayama*) and *dhyana* (meditation) have significant positive effects on one's physical, mental, emotional and spiritual health. The texts on yoga emphasize correct ways of practicing yoga and do's and don't for specific medical conditions.

- ***Nayaya*** : The literal meaning of word *nayaya* is "Justice", "methods" or "rule". It is associated with Logic and hence epistemologically closely related to modern day science. The *Nayaya*school accepts four paramanas as the means of gaining reliable knowledge. These are *pratyakash* (perception); *Anumana* (inference); *Upmana* ( comparison and analogy) and *Shabada*( word or testimony of reliable experts). While these are four valid means of attaining knowledge, nayayika scholars have also developed a theory of errors meaning the ways of identifying errors and correcting those errors in the pursuit of knowledge. All these ways of acquiring knowledge are not limited to knowledge of outer reality but also emphasize on knowing the inner self.
- ***Vaiseshika*****:** *Vaiseshi ka* school of thought is known to be propounded by Maharshi Kanada around 600 BC. It consists of 10 chapters and 370 sutras that explain various concepts like the atom, elements, gravitational force, action, space, time, mind, sensory perceptions and experiences. Maharishi Kannada proposed the concept of kana/ anu which means indivisible. All things that exist and can be experienced can be classified into seven categories. These are substance(*Dravya*); Quality(*guna*); Action (*karma*); Generality (*samanya)*; Particularity ( *vaisesa*); Inherence (*samvaya*) and the last one which was added later is call non- existence ( *abhava*).
- ***Purva Mimansa***: The *mimansa*sutra or *purvamimansa* sutras written by *Jaimini* are on the oldest of the six schools of Indian Philosophy. The sutras written in 12 chapters affirm the significance of observing Vedic rituals along with their meaning and justification. *Mimansa* followers believe that liberation is the end of sorrows and can be achieved by putting an end to the re-birth or transmigration of soul. Thevedic rituals are way to achieve this goal.According to *Purva Mimansa*, there are two kinds of valid knowledge- Immediate and Mediate. The immediate knowledge is obtained through direct experience of the object with the five sense and mind. In the first stage, the object is experienced through the external sense organs and then the internal sense organ (mind) make sense of it with previous knowledge. This is perceptual knowledge. There are also five non-perceptual souces of knowledge- inference (*anumana*), comparison (*upamana*), verbal testimony (*sabda*), postulation (*arthapatti*) and nonperception (*anupalabdhi*).The knowledge obtained from both perceptual and non-perceptual sources should be free from error and doubt.*Mimansa* postulates that no extra conditions are needed for verification of the knowledge and neither does it has to wait for verification. This is called theory of intrinsic validity *(svatahpramanyavada*).

- ***Uttara Mimansa***: *Uttara Mimansa* also known as Vedanta is not associated with specific founder. It represents three different schools of thoughts namely *Advaita*by*AdiSankra, Visistdvaita* by *Ramanuja* and *Dvaita*by *Madhva*. Adi Sankara called the world illusionary (*maya).* A person filled with ignorance fails to see the brahanma, the supreme entity (truth) covered under *maya*. He says that all the creation ultimately goes into brahmana which happens at the time of deluge.The *visistdvaita* schools considers the *ji-va*or the individual soul as the entity different from the body and is infinite in number and cannot be one with the Supreme as long as it is confined in a body whereas the *davita* schoolsays that the *ji-vas* or the souls can attain liberation through *bhakti* and the grace of God.

The learnings from various Indian systems have immense potential to be integrated in our curriculum, pedagogy and day to day life. However, the empirical studies in this area are lacking and post NEP-2020, we are likely to witness research that emphasize curriculum integration of Indian Knowledge systems and their role in transforming learners for a holistic education. There is enough evidence to show that Indians possessed profound knowledge in various areas such as art, architecture, economics, medicine and engineering. This knowledge combined with modern science and technology can be very useful in today's context with proper research in these areas. Let's take a few examples:

(1)Scientists have noted that our ancient dams have survived thousands of years without damage but most modern- day dams have an average life span of 70-100 years. The *kallani*dam in Tamilnaduis said to be built at the time of king Cholas. It is 329m long, 20m and 5.4 m high spreading over *Kaveri* river and has some peculiar features which could be deployed by modern day engineers.

(2)The speed of light is known to be calculated by MaxWell in Ninteenth Century but the *Rigveda* provides evidence of knowing the speed of light through one of its hymn ( Hymn 50 in Rigveda 1).

"*Yojananam Sahastra DweDwe Shate Dwe Cha Yojane Aken NimishardhenaKrammanaNamostute."*

This means that I salute to the Sun, the traveller of 2202 yojanas in half a Nimisha. One Nimisha is a unit of time in Rigveda which is approximately the time it takes to blink our eyes and one yojna is around 8 or 9 mile. Nimisharda means half of one Nimisha. Through this hymn, Rigveda calculates the speed of light as 185096.163 miles/ second which is very close to the well accepted speed of light, 186282.397 miles per second.

(3) Another important field of relevance is *Ayurveda*. The traditional system of medicine, Ayurveda is very holistic and emphasize complete well being of individuals and not merely freedom from diseases. The research evidences of the success of ayurveda and the possible challenges of making it acceptable at par with the modern medicine system should be understood and worked upon; only then we can hope to have a mainstream adoption of ayurveda and traditional food practices in our lives. Our science textbooks in schools have chapters on food and nutrition,

health, and diseases but they are written in a reductionist and mechanistic way where food and human body are not linked. Ayurveda recognizes the need of different kind of food for different types of bodies. Our ancient knowledge of ayurveda include concepts related to holistic health and well being of individuals.Though there are curricular changes in higher education and UGC has introduced skill enhancement courses and value -added courses for students, their syllabi and more importantly pedagogy should be aligned with the purpose/ objectives behind introducing the course. For instance, when a student or teacher takes up a course on "Ayurveda and Nutrition", both the student and teacher should understand its relevance in today's context. The students have right to get proper knowledge about ayurveda and nutritional practices through experts so that they can start believing and practicing this knowledge after having a informed and critical discourse in the classrooms. Similarly, the importance of yoga for health and happiness needs to emphasized in our curriculum.

The above examples are only few of the numerous ones that depict the presence of a rich reservoir of knowledge in Indian past which is present in ancient texts as well as in our day to day customs, festivals and traditions. The knowledge about health, psychology and sustainable developmentwas passed through oral tradition, celebrations of festivals and daily rituals so that it became a part of one's life. In the modern society, the knowledge of textbooks fails to translate into action and hence becomes irrelevant when it comes to dealing with socio-scientific issues such as environmental degradation and sustainable development.

**Integrating IKS in Mainstream Education**

The IKS cell under Ministry of Education and several other organizations are engaged with the task of creating IKS courses, conducting interdisciplinary research and finding expert resource people in various fields who could be entrusted with the task of Integrating ancient Indian knowledge with modern knowledge in these fields. Here are some of the ways to adopt IKS in our education system.

1. **Curriculum restructuring and integration in different subject areas**: The government has adopted several ways to restructure curriculum at school level as well as in higher education which includes promoting specialized study of IKS courses, introduction of new subjects and re-writingof textbooks and study materials. All these initiatives are in progress but it is important that the stakeholders at the grassroot level understand the importance of these reforms. The parents, students and teachers should understand why the restructuring is done and how it is beneficial. They should accept and adopt the changes with their mind and heart to make it sustainable and impactful. The curriculum should promote regional and language diversity and the courses should be offered in multiple languages. The refresher courses on art, literature and philosophy should be introduced for teachers in both physical and online mode to encourage maximum participation. The knowledge of Indian traditions should be imparted through celebration of festivals and cultural events in schools and colleges. The collaboration

with community at such occasions could infuse synergy between formal and informal education which is a very significant aspect of our traditional knowledge. Our traditional knowledge was not limited to textbooks and classrooms, rather it found a place in people's daily life. It is important to revive such practices through the participation of community in formal education.

Another significant step towards promoting our rich cultural heritage is through cultural and educational exchange programs for faculty and students. These exchange program should focus on understanding the rich and vast cultural heritage of India and also promoting it to the world through international exchange programs. These exchange programs should be well designed and should help in promoting IKS in a fun and experiential manner rather than through rote learning from textbook.

2. **Learnings from traditional pedagogical practices**: The key aspects of Indian system of education can be re-imagined in the modern context of education and be integrated in the classroom. In the Vedic times, the education was imparted in gurukuls and temples. The students ( even the king's son) had to leave the comfort of their homes and follow a disciplined life in the gurukul. They participated in the day-to-day activities of gurukul, went to community for alms and practiced character building along with studying subjects like economics, political science, and mathematics. The guru or teacher engaged in debates and discussions with students. The written methods were not popular and hence the focus was on listening and contemplation. The modern day education systems should also include these elements in the classrooms. The gurukul system is not to be mistaken with boarding schools of modern times. The philosophy of *gurukul Parampara* where students followed a disciplined and simple life and contributes to the life of gurukul is to be encouraged in schools. The students can do *shramdaan*through gardening, cleaning, cooking and community service etc while they are in the school. This would help in developing life skills and dignity for work in them. The teachers should encourage dialogue and discussions on various topics that are beyond curriculum and foster creative thinking, character building and patriotism in them.
3. ***Kala aur Kaushal Vikas***: An important feature of our ancient education system was development of art and skills in learners depending upon the interest and capabilities of learners. Modern day education has become examination oriented where in order to get good marks students give up on all their interests in music, theatre and arts. The development skills such as carpentry, sculpture etc is considered lowly and only students with lesser abilities in studies are expected to pursue these. This mind set needs to change and each student should be encouraged to develop at least one skill and one form of art as per their choice.The experts from the community could be engaged in imparting this knowledge along with the regular teachers of schools.
4. **Training of faculty**: Training the stakeholders for awareness, acceptance and enrichment of Indian Knowledge system is of utmost importance so that desired goals can be achieved. For a very long time, our traditional knowledge has been

ignored in our formal education system. With the National Education Policy (NEP-2020) vision and recommendations, the people at grassroot level associated with either implementing the changes or facing the consequences of changes could be perplexed. It is therefore pertinent to create awareness and support for them so that they are aligned with the vision of policy. There may be questions and challenges and the need for review at various steps but by and large the idea of integrating IKS into formal education should be acceptable and seen as a positive reform by all stakeholders and not just policy makers.

**Ensuring the Universality of IKS**

Now to address the last point, how to ensure that integration and adoption of IKS is sustainable and universal. The ancient wisdom of any civilization be it Indian or any other society is valid and useful in a context to make it relevant centuries later is a challenging task. It is important to understand how the study of IKS is beneficial in supplementing, enhancing or even replacing the incumbent systems. Without this relevance known and completely understood, the study of IKS will mechanical and superficial without really achieving the purpose intended. The idea is to understand the philosophy or key elements of IKS in different fields such as medicine, engineering and education and use them along with the existing knowledge and processes. The globalization of Indian Knowledge and its integration with various disciplines in a way that it has universal appeal and acceptance is very important. Most of our ancient Indian texts and scriptures are in Sanskrit. To make them accessible in different Indian and foreign languages is a longdrawn task. However, we can use technology for translating and circulating them widely. The formal education institutions should be encouraged to have IKS centres where faculty and students can engage in research and projects to integrate IKS into different disciplines. The research projects could be in collaboration with different national and international institutions for developing wider horizons.They can be entrusted with the task of designing curriculum, creating IKS study material and apply our ancient knowledge in the field of medicine, engineering, and agriculture along in tandem with modern technology.The conferences, workshops and cultural exchange programs at international level should be encouraged for ensuring the universal acceptance and outreach of Indian Knowledge in different spheres.While the rich reservoir of ancient Indian knowledge, culture and heritage need to be revived and made global, we must be inclusive and respectful towards the contribution of other civilizations and emphasize only the meaningful and research-based blend of knowledge and processes in modern curriculum.

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# Read-Aloud in the Context of a Community Library

**Devika Sharma**[1]

**Abstract**

*The role of read-aloud in literacy instruction is significant, however it cannot be restricted to that alone. Drawing on an ethnography of reading in a community library, I show that read-aloud has a greater possibility of producing an engaged and compassionate community of readers. I focus on the narratives of three adolescent library volunteers to understand what read-aloud means to them.*

K***eywords****: Read-Aloud, literacy, reading, reader, community library*

We know that read-aloud plays a significant role in building literacy among young children (Hahn, 2002, Wiseman, 2011). Read-aloud enables emergent readers to develop a deeper engagement with books by building upon children's strengths, knowledge, and experiences. They are pleasurable and cognitively energising. But can read-aloud be imagined in a slightly different way? In this paper, I look at read-aloud within the space of a community library. How is it conceptualised and practiced in envisioning a more equitable and just society.

I begin with the history of the term 'community library' to throw light on the meanings attached to it in developed and developing nations. I briefly discuss the practice of read-aloud as a strategy in literacy instruction. It is followed by a section on method which is based on an observation of a read-aloud session as part of an ethnography of a community library. The discussion moves to the practice of read-aloud and its various functions in the life of a community library which has the social vision of equality and social justice at the core of librarianship.

## Review of Literature

In this section, the discussion will focus on two questions to understand the role of read-aloud in a community library. The questions are: What does a community library mean? What is a read-aloud?

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**History of Community Library**

Building a public library, storing books, and giving free entry are not enough to have people from all sections of society use its services. The very idea of a library where books are stored distances a large section of our society which includes the people who are ill at ease with reading and writing as well as the neo-literates. If we examine this phenomenon more closely, we will find that people from certain castes, gender, class, and ability groups do not access the library services or they hesitate to enter it. According to Muddiman (2000), community librarianship is a philosophy of public librarianship that questions the idea of 'free entry'. While discussing the idea of free entrance in reference to museums, Bourdieu writes,' Free entrance is also optional entrance, reserved for those who, endowed with the ability to appropriate the works, have the privilege of using this freedom and who find themselves consequently legitimized in their privilege '(Bourdieu, 1968, p. 611). It is those with the cultural and social capital who feel comfortable entering and making use of library services; for others, it is an alien and daunting space. A community library addresses the exclusionary practices in and through public library services. Therefore, the focus of a community library is the marginalised, the rural poor, and the uneducated.

The development of 'community library' in the developed and developing nations has taken different journeys, and its practice has also been slightly different. For example, in the UK, it was a response to the Universalist approach to librarianship which is that if a library is good for one person it is good for everyone. The particularistic approach recognised that society was deeply divided along race, class, and gender lines. Therefore, librarianship required responding to, rather than determining, the needs of diverse patrons and communities in our society. In 1970s and 1980s, community libraries were built which saw several innovations in actively reaching out to people.

On the other hand, community library in the developing nations has taken a slightly different route. The term is often broadly used for any library that may only lend books working out of a classroom with a box of books to a well-stocked book collection in a proper building supported by NGOs, with little or no connection to the local community. One of the basic features is that community libraries are not necessarily part of the public libraries.

Stranger-Johannessen (2014) argues that initiative, purpose, materials, and services provided, and the connection to the community are important. He shows through the case study of a Ugandan library that considerations of local initiative, relatively well-resourced services, and integration in the community help define a community library and contest the politics of 'development'. He poses the problematics of the narrative of 'development 'of the poor, the rural, and the developing nation through the question of community libraries. He frames it within the ideological view of the libraries. He derives this frame from the ideological model of literacy (Street, 1984) to argue that like literacy, the library is not neutral and 'intrinsically good', therefore it is important to critically reflect on the above criteria when we begin conceptualising a community library.

In India, the idea of a community library is not well-developed. Village libraries share some of the concerns with community librarianship but they do not recognise the inequality existing in our society.

In Delhi, there are several kinds of community libraries run by NGOs, but there is no data on the exact number as there is no regulatory body for opening libraries and maintaining library standards. There is a considerable variation in the kinds and usage of libraries, with some housing less than a hundred tattered books; some may only have children illustrated and picture books without young adult books. In contrast, others may be located in a rented building or donated by the community. Suddenly, old ones may close due to lack of funds, the priorities of organisations / persons running them have changed, and new ones may get established anywhere, having no regulatory body in place, without subscribing to standards.

**Read-Aloud: Purpose and Practice**

There is sufficient literature that exemplifies the advantages of read-aloud. Fisher et al (2004) list out the benefits. It encourages the joy of reading; enhances listening skills; develops vocabulary and concepts of print. Through read-aloud, the adult (teacher/librarian) models reading strategies and demonstrates the difference between spoken language and print. The benefits of oral language development for both first- and second-language speakers are also documented. According to Nelson (1981), exposure to multiple read-aloudshelps children understand the components, structure, and function of narrative discourse. Angela Wiseman (2012) shows the benefit of read-aloud on a struggling kindergartener in engaging him in literacy development and motivation.

What does read-aloud entail? Fisher et al (2004) chalk out seven different components of read-aloud in their study of close to 150 expert teachers. They are as follows: Text must be carefully selected; text must be practiced with questions and pauses at particular junctures of the story; clear purpose must be established for the selection of the book; teacher must model fluent reading of the text; the teacher must read with expressions; discussion must follow the text read; and post read-aloud, task/s must be ready for independent reading and writing.

**Method**

For this paper, I have drawn data from my doctoral work on ethnography of reading in a community library conducted during the pandemic. It looks at how children and adolescent readers perceive themselves as readers. The community library was situated in a low-income urban village with predominantly lower caste migrant population. Through observations, conversations with children and youth and librarians and looking at different print and video documents released by the organisation, I made sense of the space of library and its programmes.

## Findings

This section focuses on two questions. How does a read-aloud unfold in practice? What does read-aloud mean to children and to the library as a whole?

### Read-Aloud

The following excerpt is an observation of a read-aloud. It is an account of how a read-aloud is ordinarily conducted in the community library.

Zeenat and Manisha, the librarians, sat with Raj, Sonia and Megha around a low-rise hexagonal table. I went and sat on one of the empty chairs. On my right was seated Sonia and on my left was Zeenat. Next to Zeenat was Reshma, a volunteer, Manisha and then Megha. Raj and Sonia were seated next to them. There was an air of excitement as to how the read-aloud of the story will unfold. All the eyes were on the cover page of the book.

Manisha began the read-aloud of the picture book *Fatima, the Spinner and the Tent.*The book is bilingual in Pashto and English, Manisha asks the children how she should go on—-whether she should read in English first and translate in Hindi immediately or directly tell the story in Hindi. Raj, leading the conversation, said she should read in English first and then explain it in Hindi. Manisha agrees. She reads the first page and explains in Hindi, '*Fatima ke papa use kehte hain chalo mere saath business mein, kya pata tumhare liyee k Jeevansathi bhi mil jaye? '*Raj comments, 'jeevan saathi.com?' Both the volunteers get embarrassed. Sonia and Megha, too, giggle. Raj replies, '*Mein baaton ka sher hoon. '*Manisha continues reading out of the book. *'Sab doob gaye bas who ladki bachgayi. Abkya hoga? '*Manisha asks the three. Raj replies, *'Uski yaadasht khojayegi'*. Sonia replies, *'koi usae le jayega, who kinarea ajayegi aur koi use bachalega.' 'Dekhte hain',* says Manisha and turns the page. Sonia's prediction seems closer to plot of the story. After the wreckage, Fatima is found lying on the shore. A man finds her and takes her home. Another question comes from Manisha, *'ab who kya karega? '*Raj has a dramatic reply, '*yeh kar, woh le kar aa'*implying that being a man he would order around helpless Fatima.The conversation veers around power, who gets more angry, self-regulation, love. Both Raj and Sonia get animated by Fatima's plight. Raj talks about how he gets angry, *'maar aur maar'*, by showing his fists. He goes on about how he fights with friends. Sonia also joins in, saying she banged her sister's head in anger against the wall yesterday. Manisha tells Raj that he must not do it. He replies that he does only when others start the fight. Sonia replies that she remembers that she must not do what she does in anger only after the act. *'Peet-paat ke mujhe yaad aata hai library kibaatein...pyar se rehnachahiye. '*Manisha reminds both of them, *'Kya mein sahi kar rahi hoon gussa karke? Kyun gussaa aya? '*Raj continues with angry movements, but Sonia is silently listening now. Raj says, *'Ghar main mujhe, papa ko aur dada ji ko gussa aata hai.' 'Gussa '*seems to be a male attribute. It defines masculinity and male domination; he glorifies it by his gestures, gesticulations, and speech. He also tries to indicate that he is becoming a man. After a while, Manisha continues. Fatima is on another journey in the sea. Manisha asks, *'ab kya hoga? '*Sonia replies, *'aapne kaha tha*

*na shuru main ki jeevan saathi dhoond rahe hain, toh shayad jeevansaathi mil jayega. '* Raj says, *'Phir se storm aajayega. '*

Another mishap happens in the sea with Fatima, and she reaches a new land. '*Tycoon aaya. Phir se woh anjan jagah aa gayi...aur usne poocha mere saath hi kyun? Hum bhi aisa he kuchh poochte hain na jab humare saath bhi kuchh galat hota hai. '*The children narrate incidents from their lives. Sonia says,' *jab hum golgappe kharahe hote hain… '* (her hands as though holding the *gol gappa* in the air, and neck stretched and mouth about to have it) *'mein kyun aadha hi kha pati hoon, badon ki tarah pura kyon nahi...yeh mere saath hi kyunhotahai? '*Manisha smiles, *'Haan, par Fatima ke saath toh bahut kuchh ho raha hai. Par woh haar nahi maan rahi hai. '*Now, Fatima has reached China this time and is expected to make a tent for the king but has no appropriate material. Manisha asks,' *Aap ko kya-kya chahiye tent banana keliye? '*Children reply,' *kapda, scissor, danda'. In the story,* Fatima starts from scratch. She spins the thread and makes a rope. She weaves and makes a sturdy cloth, unlike silk, in China. Then, she uses cloth ropes and other materials to build the tent. The king is happy with her and requests her to stay in his land. Fatima finds a man for herself and settles down. After the story ends, Sonia asks,' *ab kya ho raha hoga? '*The role has changed. Now, the question is posed by the child.Manisha says that maybe she will teach the lessons she learnt in her life to her children,' *meine yeh sab siikha, toh yeh sab bacchon ko bhi sikhaungi. '*

(Fieldnote, 5 May 2022)

The role of the adult (librarian/ teacher) is essential while doing a read-aloud. Manisha ensured that children were comfortable and ready to listen to the story that she has selected for the read-aloud. She had read the story before and made some mental notes—where to pause and what questions to ask. Sometimes, Manisha let the children take over the conversation, but it was always brought back to the story with a smile and a suggestion. She encouraged children to respond to the text by asking questions. At times, children's responses were uncomfortable, but she did not judge and admonish them, rather she gave that space to express their thoughts and offered a suggestion or a question to reflect on their action.

**Read-Aloud Means**

Apart from the librarians and adult volunteers, there were student-volunteers who conducted read-alouds in the community library. Over the years they had experienced the joy of read-alouds. After joining the team of student-volunteers they had also gone through several workshops on subjects such as how to conduct read-aloud. In this section, I discuss student-volunteer's perceptions of what a read-aloud means to them. Thereafter, briefly I focus on how read aloud becomes a means of welcoming even those who can either not read or do not have a reading habit.

Noor, a student-volunteer, echoes the commonly understood purpose of read-aloud which is bonding with books: '*Read-aloud ek bahut accha zariya hai kisi insaan ko ki taab se attach karneka. '*Salman adds that it is the easiest and fastest to build friendships in the library: '*Read-aloud ek aisa zariya hai jiske madhyam se hum dost*

*bana sakte hain*.' '*Dost*' means friend. It is only when we have friends in the library would we want to visit the place regularly. *Dost* can also be understood as a metaphor for familiar space where we feel a sense of belonging. Shazia, an Afghan volunteer, poignantly expressed that the library made her feel that she was part of this place, a part of Delhi and India; she got a sense of belonging. She began visiting the library soon after her initial visits. Now she is a part of the leadership programme in the library.

Reading is thinking. Roshan explains how read-aloud contributes to it: '*Hum padh ke bhi sochte hain aur hum sunke bhi sochte hain.'* He asserts that thinking is the key. So, read-aloud allows even those who cannot yet read begin the journey of becoming a reader by interpreting, connecting, predicting, analysing and so on. It is not merely reading strategies, but critically 'reading' the story.

In this library, read-aloud is not just a strategy of literacy instruction. It is much more than that. Read-aloud is a means to begin speaking up about one's emotions and thoughts amongst people in public. Noor expands how reading aloud can become a means to share togetherness, emotions, and feelings over books and strengthen their thoughts. It is an apprenticeship in speaking up about one's desires, thoughts, needs, and fears in smaller groups. It is unfair to ask the silenced and subjugated to make the demand in public immediately. How can they claim their rights if they have not been allowed to speak their mind? The constraints of material conditions impinge on their daily existence, multiplied by the muting of voices by ideologues, progressivists, etc., speaking on their behalf, rendering a 'silenced dialogue '(Delpit, 1995).

Read-aloud is a means to *welcome* everyone to the library. Noor explains that it is a strategy to welcome all those who hesitateto enter the library because they feel it is a place for the *'padhe-likhe '*log and whose bodies have not aligned well with the library's culture and books. How to tell children, drop outs, women, working men, those who could not read and write, that they are welcome to the library, they have the right to literature? Read-aloud, according to the student-volunteers and librarians, is one of the means to claim right to stories and information. After all who does not like listening to stories of friendships, sadness and loneliness, happiness and togetherness, inequality and discrimination, joys and fears, familiar people and distant lands! Noor and Roshan remind me that thinking together over books enable one to see different aspects of the same phenomena and also step into others' shoes. Noor adds: '*humari sochne ki kshamata ke saath saath hum aur acche tarike se hum samajhne lagte hain.*'

**Conclusion**

*Read-aloud in the context of the community library I discussed in the paper is not merely a strategy of literacy instruction. As the library work is a method to equitable and just society, read-aloud is imagined as a means to reach out to those who are kept on the margins on the grounds of lack of schooled literacy and information. Through read-alouds, a community of readers comes together to claim their voice. They co-create a dialogic space for conversations over books where they share their thoughts, emotions and desires.*

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# Foundations of Innovation: A Review of Coding and Computational Thinking Pedagogy

**Noureen**[1]

**Abstract**

*Integrating coding and computational thinking within educational curricula is increasingly instrumental in preparing students to live in an era of digitisation. This review, therefore, enumerates the very foundation of the principles of learning and teaching that concern coding and computational thinking education and highlighting some key issues from an empirical-based and theoretically-rich approach that these two potentially transformative skills for creativity, critical thinking, and innovation engender.*

*Coding and computational thinking increase beyond developing technical skills in students alone by building mental models that make them able to work with students systematically to approach complex problems and generate creative solutions. The review covers a range of approaches, from concrete coding projects to gaming learning environments that are likely to improve student motivation and achievement. It also covers teacher training, making of curriculum, and access to technology. However, the integration of coding and computational thinking in various educational settings is very difficult, because of the unequal distribution of resources, teacher readiness, and hurdles in bringing changes in curricula.*

*This review paper serves as a roadmap for educators, policymakers, and researchers on how best to add coding and computational thinking to the curriculum for successful initiatives. In conclusion, recommendations regarding the way forward in closing access gaps, developing culturally relevant curricula, and leveraging emerging technologies for improved learning outcomes are forwarded.*

***Keywords:*** *21st Century Skills, Coding Pedagogy, Computational Thinking, Problem-solving Skills, Teacher training, Digital literacy*

## Introduction

The rapid evolution of technology has raised the daily need for learning to code and computational thinking as basic, indispensable skills for twenty-first-century living. These bring into one's skill-set not only how to use but also how to handle problems and

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gain creative processes (Wing, 2006). It includes writing instructions that are understandable by computers; computational thinking is seen as a process of problem-solving in skills related to decomposition, pattern recognition, abstraction, and algorithmic thinking. This paper aims to review the practice of teaching coding and computational thinking, considering current developments in both integration with education and the challenges created by or affecting its practice.

**Coding and Computational Thinking**

Coding is the activity of creating a set of instructions that computers can understand and execute to realize applications, software, and digital systems. It involves the addition of a programming language such as Python, JavaScript, or Scratch in writing code that translates human logic into commands which are understood by machines. Coding provides a practical by which interactions with computational systems can be bridged between human and machine operations. By learning to code, one develops not only technical skills but also problem-solving abilities that are crucial in solving real-life problems (Luka Perković et al., 2010).

On the other hand, computational thinking is defined beyond coding and it involves a much wider cognitive process. It is also defined as a structured and logical approach to problem-solving in real-life problems. It involves the breaking of complex problems into smaller components, the abstraction of relevant information, pattern recognition, and the creation of step solutions (Grover & Pea, 2013). Unlike coding, computational thinking breaks out of being confined to 'computer science,' finding wide applications across disciplines, even including mathematics and engineering, going as far as the humanities. This thereby makes computational thinking a cornerstone of innovative thinking, allowing people to approach challenges in structured and efficient ways (Wing, 2006).

**Significance of coding and Computational Thinking in Education**

It increasingly seems that coding and computational thinking are being considered as one of the strategic responses in the integration of escalating demand for digital literacy to the emerging need for workforce preparedness for the future. As the world is turning to become reliant on technology, students need to be equipped with the necessary competencies to effectively engage with and innovate within these digital environments. Coding and computational thinking also allow learners to approach complex, real-world problems through structured reasoning, creativity, and adaptability—skills that are essential in dealing with dynamic challenges in the 21st century (Shute et al., 2017). These competencies will be important not only for personal and professional success but also in driving innovation across industries dependent on automation, data analytics, and artificial intelligence.

Coding and computational thinking even extend beyond workforce readiness to broader objectives of equity, inclusion, and access into general educational curricula to opportunities in general within STEM areas. By doing so, it helps to bridge the gap in unequal distribution and access to technological infrastructure so that no student is left

behind by the digital revolution. Besides, coding and computational thinking at school foster critical thinking and problem-solving across disciplines, letting students become creators of technology—not just consumers (Barr & Stephenson, 2011). This way, one equips not only digital access but also readies a generation of learners to shape the future of innovation.

## Methodology

A systematic review approach was employed to analyze peer-reviewed articles, conference papers, and educational reports published between 2000 and 2023. Databases such as Google Scholar, IEEE Xplore, and ERIC were used for the search, with keywords including "coding pedagogy," "computational thinking in education," and "teaching programming." Articles were selected based on their relevance, methodological rigour, and focus on educational contexts.

## Approaches to Teaching Coding and Computational Thinking

Coding and computational thinking require several pedagogical approaches that must be inclusive, effective, and diversified for learners at different levels of experience and interests. A few strategies were developed and adopted by educators to make concepts accessible and engaging, such as the use of visual programming environments, integrative pedagogical models, and collaborative learning techniques.

Tools for visual programming, like Scratch and Blockly, revolutionized the trend of teaching or introducing coding and computational thinking to beginners. These replace complicated syntax with more user-friendly drag-and-drop interfaces that let learners focus on logic, problem-solving, and creativity rather than getting bogged down by technicalities in old traditional programming languages (Resnick et al., 2009). However, he illustrates how Scratch, for example, enables users to create programs by combining coloured blocks, each representing a function or command in a particular order. This intuitive interface reduces cognitive load and fosters an exploratory learning environment.

## Integrative Pedagogical Model

Another powerful method of teaching is to embed coding and computational thinking in other curricular areas, such as mathematics, science, and the arts. This interdisciplinary framework embeds learning about coding and computational thinking within more familiar subjects and contexts, thereby making learning perceptually relevant for learners. For example, robotics projects challenge learners in areas such as engineering, coding, and problem-solving, hence enabling them to apply computational thinking in solving real-world problems (Zeng et al., 2023). Similarly, gaming-based learning platforms like Minecraft Education Edition interactively use coding to enhance the understanding of computational concepts for students.

Among these, integrative pedagogical models are powerful in enhancing motivation and deepening understanding by relating coding and computational thinking to real-life applications. These models nurture creativity and provide opportunities to design

solutions, create projects, and visualize abstract concepts. Moreover, embedding coding into other subjects demystifies technology and helps learners understand how it can be applied in many fields. By doing so, educators not only teach them their coding skills but also teach them interdisciplinary thinking necessary for big, real-world problems.

**Collaborative Learning**

In this direction, coding and computational thinking are widely taught by employing modern collaborative learning approaches such as pair programming and group projects. These methods emphasize teamwork, communication, and peer learning, reflecting the collaborative nature of professional software development (Lewis, 2011). As an example, in pair programming, two students work on one single project; one acts as a "driver," writing code, while the other acts as a "navigator," reviewing and suggesting improvements. It encourages mutual support, critical thinking, and shared responsibility.

Finally, collaborative learning is significantly enhanced through group projects, as pooling together students' skills and ideas allows them to tackle larger, more complex tasks. These experiences not only improve coding and computational thinking competencies but also help learners develop soft skills, such as resolving conflicts, delegating tasks, and taking on leadership roles. Research suggests that such collaboration boosts engagement, strengthens problem-solving abilities, and fosters a supportive environment where students feel comfortable taking risks and learning from shared mistakes.

**Advantages of Coding and Computational Thinking in Education**

Coding and computational thinking are an indispensable part of modern education due to their multifaceted benefits. Beyond technical proficiency, they enhance cognitive development, creativity, and career readiness. Coding and computational thinking foster critical thinking and innovation in students, enabling them to face the challenges of a digitized and increasingly complex world.

**Cognitive Development**

Perhaps the greatest benefit brought forth by the development of coding and computational thinking is cognitive development. Computational thinking enhances critical thinking, logical reasoning, and problem-solving by breaking down complex problems into smaller components, identifying patterns, abstracting relevant information, and creating algorithms. These activities teach students how to approach challenges systematically and develop efficient solutions.

**Creativity and Innovation**

Coding and computational thinking inspire creativity by enabling students to design and implement unique solutions. They allow learners to transform abstract ideas into tangible outcomes, such as animations, games, or apps, fostering a strong sense of accomplishment and innovation. Brennan and Resnick (2012) highlight how this process

helps students build confidence in their creative abilities. Visual programming tools like Scratch provide a sandbox environment where students can experiment, refine their ideas, and express creativity while mastering computational principles. Computational thinking further amplifies creativity by teaching learners to think outside the box, merge diverse ideas, and adapt to new challenges. By engaging in these activities, students cultivate an innovative mindset essential for solving the complex problems of the 21st century.

**Future Readiness**

Exposure to coding and computational thinking equips learners with essential skills for success in technology-driven fields. Careers in automation, artificial intelligence, data science, and software development rely heavily on strong computational abilities and a solid understanding of coding principles (Shute et al., 2017). Introducing these skills early in education helps prepare students for a workforce increasingly influenced by digital technologies. Additionally, the problem-solving mindset fostered by computational thinking is not limited to specific career paths; it enables students to adapt to rapidly evolving technologies, ensuring they remain competitive across a wide variety of professional fields.

**Challenges in Implementation**

Despite the increasing significance of coding and computational thinking (CT) in education, their effective implementation in classrooms faces several obstacles. Key challenges include inadequate teacher training, limited resources, and difficulties in integrating coding and CT into existing curricula.

**Teacher Training**

One of the major challenges in implementing coding and computational thinking education is the shortage of well-trained educators. Many teachers lack the technical expertise, teaching strategies, and confidence needed to effectively deliver lessons in these areas. Research by Yadav et al. (2017) highlights that many educators have limited exposure to coding and computational concepts, resulting in knowledge gaps that affect instruction quality. This issue is particularly pronounced in schools with few professional development opportunities or where technology integration is not a priority. Without a solid understanding of computational thinking and coding, teachers often struggle to create lessons that are both engaging and accessible for students.

To address this, professional development programs tailored to equip educators with technical skills and effective teaching methods are essential. These programs should also offer ongoing support, helping teachers stay updated with the fast-changing landscape of technology and educational practices.

**Resource Constraints**

A major challenge in implementing coding and computational thinking education is the unequal access to technology and resources across schools. Limited funding often

results in outdated computers, unreliable internet, and a lack of educational software, particularly in under-resourced schools. This inequality widens the digital divide, leaving many students without the tools they need to effectively learn coding and computational thinking. Bon et al, (2023) stress the importance of addressing these resource gaps through innovative approaches, such as low-cost technology initiatives, partnerships with tech companies, and community-driven programs. Additionally, schools require consistent funding to maintain and upgrade their technological infrastructure, ensuring that all students have access to a high-quality digital education.

**Curricular Integration**

Incorporating coding and computational thinking into existing curricula poses a significant challenge. Schools often struggle to introduce these concepts while meeting the demands of traditional subjects and standardized testing. According to Grover and Pea (2013), the lack of interdisciplinary collaboration across subjects adds to the difficulty.

Coding and computational thinking are inherently cross-disciplinary, connecting with mathematics, science, and even the arts. However, integrating them into established learning objectives requires careful planning and support from educational policies. Policymakers need to provide clear guidelines and frameworks for this integration, ensuring that coding and computational thinking are seamlessly incorporated into broader educational goals without overwhelming teachers or students.

**Recommendations**

**Professional Development for Educators**

Ongoing training programs should be implemented to empower teachers with the technical knowledge and pedagogical strategies necessary to teach coding and computational thinking effectively.

**Inclusive Curriculum Design**

Curricula should be developed with inclusivity in mind, addressing the diverse learning needs and backgrounds of all students to ensure equitable participation and success.

**Technological Access**

Investing in technological infrastructure is essential to provide all students with equal opportunities to engage in coding and computational thinking education, regardless of their school's resources.

**Longitudinal Studies**

Conducting long-term research is vital to understand the lasting effects of coding and computational thinking education on students' cognitive abilities and career readiness, informing future educational practices.

## Conclusion

*The integration of coding and computational thinking (CT) into education represents a hugely transformative shift in preparing our students for the challenges and opportunities of the future. These skills are not optional but essential today, laying the foundation for technological fluency, critical thinking, and innovation. In a world increasingly shaped by digital technologies, coding and computational thinking provide learners with a vital tool to thrive in a rapidly changing global economy.*

*While much progress has been made in incorporating coding and computational thinking into educational systems, significant challenges remain. One of the most critical issues is teacher preparation. Many teachers lack the technical knowledge, confidence, and support needed to effectively teach these topics. Tailored professional development programs are necessary to bridge this gap to ensure consistent and high-quality instruction in coding and computational thinking. This can give good training to teachers so that they can prepare children well in this field in the future. Apart from this, resource limitations also pose a big obstacle, especially in low-resource schools where inequalities in access to technology hinder learning opportunities.*

*To overcome this inequality, investment in technical infrastructure and the development of public-private partnerships are needed to provide wider access to these important skills. Another major challenge is the seamless integration of coding and computational thinking into the existing curriculum. These subjects are not separate but are intertwined with other subjects including mathematics, science and arts. Successfully incorporating them into the educational framework requires interdisciplinary collaboration, innovative teaching methods and flexible policies. Linking coding and computational thinking with broader learning objectives ensures that these skills are not only taught but also applied in meaningful and relevant ways.*

*Despite these challenges, the potential of coding and computational thinking to redefine education is extraordinary at this time. These skills encourage creativity, enhance problem-solving, and empower students to become active contributors to technological and societal progress. By fostering an innovation mindset, coding and computational thinking prepare learners not only for careers in technology-driven industries but also for lifelong learning and adaptability in a changing world. To ensure the success of coding and computational thinking integration, educational systems must prioritise inclusivity, equity, and sustainability. Policies and practices should focus on ensuring that all students, regardless of socioeconomic background, have access to high-quality coding and computational thinking education. Through collective effort and strategic investment, coding and computational thinking can empower future generations, democratise technological opportunities, and build a workforce prepared to tackle the complex challenges of the 21st century.*

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# Integrating Value Education in Mathematics: A Pathway to Ethical and Holistic Learning

**Aakriti Gupta[1] & Divya Gautam[2]**

**Abstract**

*Education is an important tool for individual development and societal progress, which mold the individual attitude, capacities and character as well. Integrating value education within mathematics has created a path to move towards ethical and holistic development, which results in moral and life skill development as well. Mathematics is usually considered a technical subject, but it holds potential to instill values such as honesty, perseverance, fairness, and collaboration. This paper explores how mathematics education serves as a powerful medium for value education, addressing societal and ethical challenges. Drawing insights from various researches, the paper highlights the implicit and explicit ways values are embedded in mathematical classrooms. The research points out how mathematics education combined with value education helps develop cognitive and affective growth, develops ethical awareness, and builds strength in critical life skills that enable students to take up responsible citizenship. The curriculum becomes a medium that can embed ethical and cultural considerations into mathematics and make it the instrument of social justice and holistic development. This paper ends with the argument that the integration of values in mathematics education not only makes mathematics education more successful in terms of students' academic performance but also with the result that it produces more ethically conscious persons who are ready to address the complexities of contemporary society.*

***Keywords:*** *Value Education, Mathematics Education, Ethical Learning, Holistic Learning*

## Introduction

Education has been and continues to be the foundation of social and individual growth as a result of educating the attitude, potential and personality of individuals concerning their participation in the world and what they can offer to the world to give back. Or, more precisely, that education is the task of the acquisition of knowledge, while

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education also must be ordained as a mediation that carries the obligation of a construction of values, a value more than classroom knowledge, towards social coherence and moral purity. According to Dewey (1916), education is a "continuous reconstruction of experience," shaping individuals to meet the social demands of their time. Furthermore, through education, learners not only gain technical skills but also an ethics that equips them to act as responsible citizens and bring into existence values for societal wellbeing (Lovat, 2008). So, education is at the heart of the development of values because society with time is becoming more complex and diverse. "When an infant is born, the birth is the same as that of any other living being. As infants grow and interact with their surroundings, they become social. This is the socialization of the child that occurs in every society, but it varies from place to place and culture to culture. Values are an important part of this process of socialization." (Gupta, 2023) The COVID-19 pandemic, in particular, highlighted how prolonged social isolation affected people's interactions.During this period, social life became restricted to virtual interactions significantly reducing in-person communication(Banerjee & Rai, 2020). Students spend a lot of time on technology which has resulted in limited physical development. It means they spend more and more time on social networking sites. This change, however has hindered the natural socializing process that was previously accomplished through face-to-face and one-on-one contacts.

**Value Education**

"Values are considered important for the better functioning of society and the nation's development. Due to the impact of urbanization and Western culture in Indian society, materialistic desire is at a high. Hence, the need of the hour is the transmission of values. Values help the individual to differentiate between what is good or bad. According to Dewey, School is a miniature society; hence, the work of values inculcation would be best through education (Gupta, 2023)". As a result, value education must be included in curriculum to help kids develop values and life skills that they may be lacking in an era where technology rules. Value education focused at developing value-based education with an integrated approach and enhancing self-awareness and morality in a person (Teachmint, 2023).

Values guide students in growing their personalities so that they meet the objectives of society and meet their psychological, ethical and democratic challenges (Gupta, 2024). Furthermore, in the contemporary society, which is increasingly focused on the advancement of technology, value education plays an important role in molding students into responsible citizens oriented to the development of the society (School, 2024).

**Mathematics Education**

Mathematics is a very important part of the Indian education system. It has high value in its logical nature, problem-solving potential, and its applicability to a wide range of disciplines. However, mathematics in the classroom is typically viewed as an exercise in cognitive development: the skill of critical thinking, precision, and analytical thinking.

But it's more than just computations and formulae. Over the last 150 years or so, mathematics education research has contributed much to our understanding of the teaching and learning of mathematics at school (beyond), and to our knowledge of supporting and improving the teaching and learning processes (Kilpatrick, 1992, as cited in Seah, 2019).

Mathematics in the 20th century became an evolved discipline which developed far more complicated mathematical language and also tools that made them much more functional within many fields. "The 20th century approach to mathematics resulted in a more developed mathematical language, new powerful mathematical tools, and inspired new application areas that have resulted in tremendous discoveries in other applied sciences. Towards the end of the 20th century, mathematicians were making a re-think on the need to bridge the division lines within mathematics, to open up more for other disciplines and to foster the line of inter-discipline research (Masanja, 2008)".

**Interconnection of Mathematics Education and Value Education**

Most people feel that mathematics is a subject to be mastered along with technical skills. It is an understatement to say that it actively supports successful academic achievement, but it is equally important in learning a host of general life skills and moral values, i.e., responsibility, patience, perseverance, and honesty. Value education in mathematics is a term describing integrating possibilities for personal development and ethical teaching into mathematical instruction. Also, value education in mathematics focuses on the merging of ethical principles and life skills alongside technical knowledge, making mathematical learning more interesting. Arithmetic teaches fair pricing and seeing nice values; geometry creates respect for the cultural heritage and for art and architecture through the study of symmetry in architecture. The mathematics classroom also provides a particularly good opportunity for group learning, which can be used to teach students about the value of teamwork, adapting to different ways of working and respecting the difficulties that your fellow students face. In a multicultural society, it is essential that these critical life skills be promoted. This dependence emphasizes the potential of mathematics as an underlying basis from which deep and even deeper understanding of the world and of the evolution that has created the world can be attained. Nevertheless, mathematics can also provide the means to build the moral values, like to cooperate, to be equitable, and to remain persistent, thus making this one of the most crucial subjects, both in the academic and an ethical and integral development. Specifically, it is becoming increasingly and much of the time the task of embedding value education into mathematics teaching (thus making deep and pervasive knowledge of the meaning of social responsibility) as part of the pathway to becoming an effective agent of social flourishing.

**Research Questions**

- What is the role of value education in a Mathematics classroom?
- Why is value education important in Mathematics education?

**Review Related to Literature**

Value Education integrated in mathematics is realized as an important path for ethical and holistic development of students. In this area of study, it is underlined that mathematical content, pedagogy and curriculum can be powerful channels for inculcation of values. Dixit and Pathak (2021) emphasized that "the curriculum, content, syllabus and various pedagogies in mathematics help in inculcating the values in the learners." They advocated for a problem-solving approach, arguing that common sense, general knowledge and capacity to face life challenges judiciously could be developed by the means of mathematics for learners. Through mathematics, students acquired values such as "love and kindness, honesty, hard work, patience, cooperation and teamwork, empathy, forgiveness, and respect for others," all of which are critical for social and personal development.

Researchers underscored that values in mathematics are often implicitly immersed in mathematics, sometimes not directly under the awareness of the teachers. Bishop et al. (n.d.) identified a need to make values in mathematics explicit in classrooms as "teachers have only limited understanding of what values are being taught and encouraged." They suggested that implicit and explicit value in teaching occurred through subject-specific, general education, and mathematical frameworks. Their study posed critical questions like "What are teachers' understandings of their own intended and implemented values?" and whether mathematics teachers can "gain control over their own values' teaching." They advocated for a structured approach to value education, stating that "values teaching and learning inevitably happen in all mathematics classrooms." but we often do not know or plan what this will mean and how we can make it more effective.

Seah (2016) added another layer by exploring the ways in which values are observable within mathematics teaching and learning, stating values as "a volitional construct that scaffolds cognitive and affective developments in mathematics learning." Seah said that values could help to promote both cognitive and affective growth, which may affect our mathematical understanding, self-confidence and performance positively. Seah gave examples of values like fairness, collaboration, and human rights that could be integrated into the classroom discussions by the teachers with a social and ethical perspective. Hence, it may lead to a more value-oriented learning experience.

Moreover, Sam and Ernest (1999) in their exploration of Malaysian School Mathematics Curriculum, analyzed how values are planned and espoused within the education system, drawing insights from the teachers' perceptions and curriculum documents. They found that "the kindergarten teachers stressed the epistemological values most, followed by personal values," while "the primary mathematics teachers put roughly equal emphasis on the three categories stressing cultural and social values." This analysis showed us that responsibility is not just immersed in the curriculum, but it is also supported in various stages of education by teachers.

Extending this conversation, Seah (2019) contends that values serve as a conative construct—one that is a “powerful motivating force” in mathematics education. Seah advocated for the utilization of the structured values development process (JEDI) to address important educational and ethical responsibilities through both teachers as well as students by internalizing those values.

As noted by Austin (2010), self-efficacy improvement was emphasized in the context of pre-service teachers’ training for superior performance. Addressing the challenges of low self-efficacy found among students whose majors involve mathematics, Austin (2010) proposed the idea of incorporating respect, fairness, responsibility, integrity, and empathy within an inquiry constructivist design. The investigator stated that values adhered to in the mathematics classroom make the students more competent and worth appreciating as such, buoying their beliefs and passion about teaching mathematics. The research underlined that the values-driven approach is consistent with constructivist and inquiry paradigm learning theories, which advocated active learning, personal involvement and building social networks for effective learning. This strategy was also evident in the South Africa National Curriculum, which encourages the promotion of values as important components of responsible, critically engaged and active citizens. As it was shown in Austin’s study, this value-based approach not only enhances the students’ mathematical self-efficacy but also brings about quality teaching with nurturing students’ restored strength, commitment to excellence and respect for one another amongst pupils, which in turn has positive effects on the students and the community at large.

As mentioned by Clarkson et al. (2019), the integration of value education in mathematics teaching is important in making a more inclusive classroom that is culturally oriented. Value education in the mathematics classroom was defined as promoting the inclusion of the ethical, cultural, and social aspects of the mathematical world within the teaching, helping learners visualize more mathematics than being able to calculate numbers only. The International Congress on Mathematical Education (ICME)-13 Monograph titled "Values and Valuing in Mathematics Education" explained the possibility of teaching mathematics while upholding and practicing certain values, for example, equity, inclusivity, and social concern. For instance, researchers indicated that in countries such as Japan and New Zealand, incorporating the values within the educational system such as collaborative learning, team work and group discussion, having supportive family, and equity is important for the minority groups like the Pāsifika tribe. Teachers use different techniques, such as lesson discussion understanding and learning, and provide socially open-ended problems to create a conducive environment where values that bring mathematics closer to the students' lives are preached, increasing their interests. In this perspective that values are inflected in the mathematics classroom, the lens has been used to ensure that the educational system offers equity by addressing the individual and different needs of studentsand their approach to learning problems in STEM fields.

Tillman (2014) focused on the Values-Engaged Educative Evaluation (VEE) framework, which looks at STEM education through the lens of diversity, equity, and inclusion alongside the integration of value education. In respect to mathematical instruction policy, value education is considered to be infusing ethical and cultural issues in the curriculum to achieve out of classroom learning. Such an approach was necessary in order to enable students to appreciate mathematics as an instrument of critical social issues in the society in question towards a more expansive approach to education. The program encouraged and supported these students because it was focused on values and views intended to promote equity in participation in STEM. Examples in the NSF-funded Research Experience for Undergraduates (REU) program show how relevant mathematics can be made through the use of mentorship, inclusive curriculum designs, as well as culturally appropriate evaluation metrics. The program creates such a conducive environment through its diverse faculty and trainees addressing issues in society, such as environmental conservation and showing them how mathematics can be useful in solving such problems. The embedding of value education in the Values-Engaged Educative Evaluation (VEE) Framework led to enhanced student engagement and student achievement. This in turn produces an efficient and responsible work force in the STEM fields.

Taken together, these researches present a complete foundation for understanding how values can become embedded in mathematics curriculum that leads to ethical and holistic learning. Through the incorporation of all of the above within a single discipline model of mathematics, mathematics becomes something rather than a tool for the acquisition of cognitive abilities, something rather than a vehicle for the dissemination of values, and something rather than an ethically naive person.

**Conclusion**

This research found that value education is applied within the mathematics classroom and is essential in nurturing the students' ethical, cognitive and affective development. As it prepares the students to be good problem solvers with the necessary knowledge and skills to be conscious and active contributors to the amelioration of society. It stated that, not surprisingly, not only is it the acquisition and development of cognitive competence and learning, but also of the ethical human being. The researcher also found that this value education also tackles the issues of the diverse characteristics of learners and equity so that all students identify with the subject. For example, mathematical problems and real-world applications can be used to help students focus on the societal ramifications associated with the mathematical judgements they make as well as the veracity of their solutions.

It was found that the integration of value education into mathematics is an important method to encourage ethical and holistic development in school children. Researchers described approaches to the acquisition of life skills and values and drawn attention to the fact that values may be latent in mathematical learning and that mathematics teachers should themselves become aware of them in a conscious way. Through this research, we found that values encouraged cognitive and affective development,

recommending their integration for a value-based learning experience. It can be demonstrated through this research that value education promotes diversity and equity in schools while also utilizing culturally relevant curricula to boost engagement and solve social concerns/real-world problems. Summing up, in this research, mathematics became a means for the development of morally responsible individuals and of balanced personal growth.

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# In-Depth analysis of Preschool Curriculum of Delhi and Jammu & Kashmir: Examining Alignment with NCERT Curriculum

**Shachi Vashisth[1], Veenu Wadhwa[2] & Reetu Chandra[3]**

**Abstract**

*In India, Early Childhood Care and Education (ECCE) for children aged between 3 to 6 years is delivered through anganwadis and preschool centers, managed by the central/state government, private organizations, NGOs, and international agencies. ECCE focuses on school readiness and holistic development of children, guided by policies such as National ECCE Policy 2013, National ECCE Framework and quality standards 2013, and National Education Policy (NEP) 2020. While state governments primarily implement ECCE policies and programmes covering preschool education, preschool curricula vary widely within and across Indian states, leading to inconsistencies in learning standards. Despite differences, common themes emerge, such as curriculum structuring, inclusive education, problem-solving skills, and practical learning.*

*The present study compares Delhi and Jammu & Kashmir's preschool curricula with NCERT's standard framework, analyzing their alignment in teaching methods, assessment, and inclusivity to ensure uniform quality in early education.*

*While both states have different curriculum visions, a common shift from content-based to competence-based learning was evident, focusing on practical skills for an evolving world. Both curriculums emphasize skill development, shaping children into future citizens. Despite variations, they share a learning-oriented foundation, aligning pedagogy, activities, and teacher-child interactions toward holistic development. However, both states lack parental involvement, despite NCERT emphasizing its role in achieving early learning goals. Additionally, no provision exists for children with special needs. To ensure holistic and inclusive development, state curriculums must integrate parental engagement and special needs inclusion.*

***Keywords:*** *Child Development; Early Childhood Care & Education; Early Childhood Education; Curriculum Development; Harmonization*

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## Introduction

Importance of early years is universally recognized as the most crucial period for a child's biological, neurological, psychological, social and emotional development (Bakken et al., 2017). During early years, the rate of holistic development is very high and foundations are laid for cumulative lifelong learning and overall development (Kapil, 2002; Rao, 2005). There are growing scientific evidences that high quality Early Childhood Education (ECE) has more impact on children's academic development and their emotional and social well-being than other phases of education (Camilli et al., 2010; Whitebread, 2015). Keeping this in view, and to improve learning outcomes at large and sustain them in a long run, early years is considered to be the best time to invest, which can be achieved by providing quality Early Childhood Care and Education (ECCE) to all children (Foundation, 2000). Therefore, it is of utmost importance that every child has equitable access to quality ECCE. The overall aim of ECCE is to achieve optimal outcomes in the area of physical and motor development, cognitive evolution, socio-emotional-ethical development, cultural development, and the development of communication and early language, literacy, and numeracy (Kaul & Sankar, 2009; Reetu et al., 2017).

Objectives and action plans of ECCE are delivered through government settings, private organizations or bodies funded by trust, societies, religious organizations and internationally funded agencies (Vashisth et al., 2021). The government settings are the largest ECCE service provider in India through Integrated Child Development Services (ICDS) which is the World's largest programme to provide ECCE (Women & Development, 2013). The programme adopts a multi-sectoral approach to child development, incorporating health, early education and nutrition interventions. At present, ICDS programme delivers its services to more than 245 lakhs children under 6 years of age through pan India presence of 13.84 lakhs authorized Anganwadi Centres (AWCs) as on 31.12.2020 (India, 2020-2021). Programmes such as Sarva Shiksha Abhiyan (SSA) and National Programme for Education of Girls at Elementary Level (NPEGEL) have also supported setting up of ECCE centres in various districts in India. However, mere participation in an early childhood programme is not sufficient. The M.S. Swaminathan Research Foundation, Chennai, India, also recommended that the mere establishment of ECCE centres may not be of much use in terms of promoting children's development. Only quality can provide results as far as learning competencies are concerned (Foundation, 2000). The quality, an important underlying factor which determines the programmes' positive impact on children, of the programme attended by the children at this stage is also very crucial (Chopra, 2012). Unless an ECE programme is of exceptional quality, full positive impact on children may not be achieved (Vandell et al., 1988).

The various provisions provided by the programme to the children determine the quality of an early childhood programme. Curriculum seems to be the basic variable that influences the provisions provided to children in an Early Childhood Care and Education programme and in turn determines the quality of the programmes for children. Studies

have also identified curriculum as an important factor determining the quality of an ECCE programme (Justice et al., 2008; Schweinhart & Weikart, 1997).

Quality of an ECE programme varies from one state to another state of India as each state varies with the use of curriculum, books and other teaching modules. Even, the state assessment varies from one state to another. Curriculums may differ from one state depending on the rulings of the state itself and other factors that affect the state curriculum. A study conducted by the NCERT showed that only half of the Indian states have adopted the National Curriculum Framework (NCF) which ultimately resulted in differences in total number of working days, time allotted for teaching various subjects, and assessment of outcomes. Time allotted for teaching different subjects at primary school for instance varies from 12 mathematics periods in a week in Andhra Pradesh, while only 5 periods are allotted in Kerala, Meghalaya, Mizoram and Nagaland (Yadav, 2011). Similarly, periods allotted per week for the teaching of moral and value education in primary schools are three in Andhra Pradesh and two in Karnataka, Uttar Pradesh, Chandigarh and Sikkim, four in Goa and six in Madhya Pradesh (Yadav, 2011). These different curricular approaches influence the inputs provided by the preschool leaders to the children and thus, output varies across the states in India.

In this study, an attempt has been made to establish similarities and highlight the differences in curriculum being implemented in selected states of India.

Objectives of the study:

- To perform an in-depth comparative analysis of the curriculums of two states, namely, Delhi, and Jammu and Kashmir.
- To check the alignment of these curriculums with suggestive preschool curriculum developed by NCERT.

This study was delimited to exploring the curriculums in government owned preschool of Delhi, Jammu & Kashmir, only.

**Data Collection**

A comprehensive literature search was conducted across all relevant search engines using keywords such as ECCE policy and implementation, preschool curriculum, curriculum reforms in India, curriculum harmonization, and variations in curriculum across different states in India. Review articles, research papers, and reports retrieved from the search results were then downloaded for analysis. A wide range of sources, including research and review articles, books, Master's and Ph.D. dissertations, government reports, and blogs, were thoroughly examined to gather relevant information for this article. This study adopted a qualitative approach, utilizing document analysis to assess whether the selected states in India adhere to the preschool curriculum framework set by NCERT or have implemented modifications. To facilitate the analysis, curricula were categorized based on key indicators, and their alignment with the NCERT curriculum was systematically evaluated and discussed.

**Preschool Curriculum**

The National Council of Educational Research and Training (NCERT) is responsible for developing the National Curriculum Framework (NCF), which guides the curriculum design for various stages of school education in India. NCF is developed at the national level with input from stakeholders representing educational institutions across various states and Union Territories (UTs). It is shaped by insights and perspectives derived from the national education policies formulated by the Union Government. NCF with evidence-based recommendations on curriculum, pedagogy, assessment and examination serves as broad guidelines for the entire school education in the country. NCF is centred on the common core consisting of constitutional values, scientific temper, struggle for freedom and national priorities envisioned from time to time. This curriculum framework is also seen as a mechanism for strengthening the national system of education addressing the diversity of our country. A gazette notification of the Government of India in 2010 had declared NCERT as an academic authority for taking decisions regarding curriculum and evaluation procedures at the elementary education stage. NCERT curriculum has been developed with an assumption based on empirical and theoretical understanding that children are generally ready for preschool by the age of 3 years. This curriculum has been designed in a progressive manner for 3 years of preschool education before Class I, between the ages of 3–6 years.

**NCERT Curriculum**

Curriculum is considered as the heart of preschool education and stands at the core of preschool education, serving as the foundation for all activities conducted in preschools (Wood & Hedges, 2016). The curriculum consists what to teach, contents to be used, the process of teaching, learning, sports, physical education, musical activities, assessment of children and the evaluation, etc. that lead to potential learning outcomes of every child of the school (Dodge et al., 2002). NCERT preschool curriculum focuses on three major objectives, key skills and concepts to be developed; pedagogical approaches to be used by the teachers; and the early learning outcomes to be obtained by the children at the end of preschool education (Training, 2019). The first objective of preschool curriculum i.e. key skills and concepts include decision making and problem solving, development of pro-social behaviour like caring, sharing, and compassion, development of healthy habitshygiene, sanitation and awareness for self-protection, development of motor skills such as running, jumping, hopping, crawling, climbing, throwing, catching and kicking, eye hand coordination, talking and listening, emergent reading and writing, exposure to second language, development of sensory and cognitive skills, numerology, which the teachers need to focus on while implementing the curriculum that aims at the holistic development of each child. Pedagogical approaches, the second objective of preschool curriculum, are the various ways to be used by the implementers to achieve curriculum goals and include play-based activities (free play and guided or structured play), interaction-based approaches such as peer interactions, material interactions, and adult interactions and environment-based approaches. Early learning outcomes, the third major objective of preschool curriculum, are simply the expectations or what

children should know and required to be able to do at the end of each year (Training, 2019).

**Guiding Principles for Preschool Curriculum by NCERT**

The Government of India has made many efforts to ensure preschool education provisions to improve its quality in terms of providing health and care facilities, infrastructure, curriculum, teacher training, and enhancing teaching-learning process (*National Education Policy*, 1986; *National Curriculum Framework*, 2005; *National ECCE Policy*, 2013; *National ECCE Curriculum Framework*, 2013 and *Quality Standards for ECCE*, 2013). Research highlighted the importance of providing children with developmentally appropriate early learning experiences in preschool, which foster school readiness and facilitate a smooth transition into formal education (Mythri & Rajalakshmi, 2011). In this context, the need to establish guidelines for the effective implementation of a high-quality preschool program was recognized. The National Education Policy (NEP) 2020 emphasizes a fundamental shift in curriculum and pedagogy across all stages, aiming to foster deep understanding and promote learning how to learn, moving away from the prevalent culture of rote memorization. (Kumar et al., 2021). Thus, at present, the curriculum is based on following guiding principles:

Learning is continuous and cumulative: Learning begins at birth and continues throughout life. In the early years, children absorb knowledge through sensory experiences and stimulation, making ECCE and its delivery approaches crucial to their overall development. It is essential to provide all children, including those with special needs, with optimal stimulation during this critical period to support their growth and learning. (Training, 2019).

Evidence from neuroscience proves that early learning matters for later outcomes: It is widely documented that learning at early years are crucial in determining how a child's brain will eventually be shaped (Duncan & Magnuson, 2013).

Each child is different and grows, learns and develops on one's own pace: Every child is unique, acquiring abilities and skills at their own pace (Hohmann et al., 1995). An effective curriculum acknowledges these differences, adapting to varying learning abilities and developmental speeds to ensure holistic growth including physical, social, emotional, moral, and intellectual. To foster optimal learning and development, it is essential to incorporate diverse teaching strategies that cater to children at different developmental stages. (Training, 2019).

Play and activity are the primary context of learning and development: Play and activities altogether constitutes the best medium for learning (Thomas & Harding, 2011). A balanced approach between different kinds of play such as free and guided, active and passive, indoor and outdoor, individual and group and structured and unstructured should be adopted in preschool curriculum. Self-initiated play or activities based on children's interest and choices should also be a part of games and activities

suggested in preschool curriculum (Training, 2019).

Responsive and supportive interactions with adults are essential to children's learning: Children learn and absorb knowledge through interactions with their parents, families, friends, teachers, and the surrounding community. These relationships and experiences play a crucial role in shaping their emotional and social development (Plowman & Stephen, 2013; Training, 2019).

Children learn by being provided the environment for experiential learning: Children learn through their continuous exposure with their environment that helps them to gain learnings with interaction and guidance from teachers and peers. Preschool curriculum needs to be ensured that children are provided developmentally appropriate materials, experiences, and challenges in order to help them construct their own knowledge (Training, 2019).

Interactive teaching enhances learning experiences: Interactions (child-child, child-teacher, and child-material) is one of the most crucial aspects of quality preschool education. These interactions, along with the diverse environmental and cultural experiences children are exposed to, form the foundation for their readiness for formal school learning (Training, 2019).

Development and the use of indigenous material enhance learning opportunities: Use of available indigenous resources helps children in providing early education. It provides opportunities to the teachers, children, caregivers and community to contribute in active and constructive teaching-learning process (Training, 2019).

Responsiveness to the context and appreciation of diversity support learning: It is imperative that the programme identify the strength and abilities of all children to achieve the maximal learning outcome. All children need to be actively included in each educational and play-based activity. Disabled children need to be given more attention and individualized instructions in order to develop and learn the skills and concepts. Children should also be given sufficient time and opportunities to interact with each other's during play, group activities and other forms of conversation (Training, 2019).

Mother tongue or home language should be the medium of instructions: The mother tongue or the language spoken at home enables children to express their emotions and thoughts more freely. Internationally, teaching in a child's native language is considered the most effective approach for supporting their early development. Research shows that children who receive preschool education in their native language experience fewer difficulties with comprehension (Benson, 2005; Training, 2019).

Family involvement contributes to learning: Involvement of family members and caregivers contributes significantly to learning and overall development of children. The preschool curriculum emphasizes active involvement of family members in preschool

activities as well as at home (Jaiswal & Choudhuri, 2017; Training, 2019).

**Analysis of States Curriculums**

For the present study, two states, namely Delhi and Jammu and Kashmir have been identified to understand their curriculums with respect to curriculum recommended by NCERT. An in-depth study of the content of curriculums and parameters such as pedagogy, assessment criteria, competencies etc. have also been studied state-wise and with reference to NCERT recommended criteria. In addition, this analysis helps in better understanding of the way in which these states have framed their curricula to ensure a successful reform in the national education systems. It is also important to stress here that this article is an attempt to make certain aspects visible and possible to compare, thereby raising the awareness of curriculum questions in relation to children's learning and development.

**Preschool Curriculum adopted by Delhi**

Curriculum adopted by the government of Delhi is designed by the State Council of Educational Research and Training (SCERT) and aims at providing the rich variety of experiences to the children while keeping in mind their age, abilities and social context (State Council of Education Research & Training (SCERT), 2018). This curriculum is flexible, allowing teachers to move away from a rigid framework and tailor the learning experience to best meet the needs of the children. Curriculum adopted by Delhi government is theme based where different concepts are integrated and variety of activities involving different sensory and motor skills are incorporated. Themes are segregated month-wise and include know about yourself, environment, personal hygiene, language and vocabulary etc. A typical daily schedule, as outlined by the Delhi government, includes a diverse set of activities such as free conversations between teachers and children, language exercises, play-based learning, early mathematics using concrete materials, storytelling or dramatization, and indoor games or crafts. Teachers are encouraged to adjust the timing and sequencing of activities based on the children's needs, but all children must have the opportunity to engage in each of these activities. The curriculum emphasizes the importance of daily "circle time," where children are encouraged to share their thoughts and experiences, whether it be a happy memory or a concern related to family, friends, or the world around them. Teachers play a crucial role in motivating children to express themselves openly, fostering a space where both teachers and children can communicate freely. Delhi curriculum assesses learning outcomes of the children in the form of their personal, social and environmental development, language development, literacy, sensory motor development, numerology development, their understanding of surroundings and their artistic expression (State Council of Education Research & Training (SCERT), 2018). This ensures that the curriculum not only addresses academic growth but also nurtures emotional and social well-being in young learners.

**Preschool Curriculum adopted by Jammu & Kashmir**

Curriculum acquired by the Jammu & Kashmir (J&K) government is termed as "Nanhe Kadam" and developed by ICDS, J&K. The J&K curriculum is designed to provide positive experiences to children by giving them rich learning opportunities ranging from various domains of development such as language, physical, cognitive and socio-emotional (State Mission Directorate, 2018). The J&K curriculum is in line with the principles of early learning and maintains a balance between child and teacher-led activities, individual and group activities, structured and un-structured activities and indoor and outdoor activities. J&K curriculum follows theme-based approach that helps in integrating various domains of the development. In this approach, themes are subdivided into subthemes and teachers are free to use different methods and materials to enable all children to make their own concept like theme myself is subdivided into various subthemes such as my body, body parts and their functions. Content of the themes are derived from observations, from the child's lived experiences, from story books, real objects. J&K curriculum follows a balanced approach in four components i.e. language development, physical development, cognitive development and socio-economic development and creative expression. The duration of each component is kept small considering the short attention span of 3-6 years aged children. Themes incorporated into J&K curriculum are myself, my family and my neighbourhood, plants, vegetables and flowers, means of transport, animals and birds, community helpers, seasons, planet system, air and water and festivals and important days. A typical daily schedule as recommended by the J&K government include circle time for free conversation between teachers and children as listening and speaking are two very important language skills which act as foundation for reading and writing, guided activities, school readiness activities, outdoor activities, stories and rhymes and free play activities. J&K curriculum assessment criteria include personal hygiene, physical development, language development, cognitive development, involvement in indoor and outdoor activities, socio-economic development and reading and writing readiness (State Mission Directorate, 2018).

A comparison of preschool curriculum adopted by Delhi and Jammu & Kashmir on various parameters in accordance with NCERT prescribed preschool curriculum is shown in table 1.

**Findings & Discussion**

The research for the purpose of this study is focussed on Delhi and Jammu and Kashmir. To analyse the findings, various parameters have been taken into consideration to analyse the features of selected state in line with NCERT curriculum.

**Target Group**

As per NCERT guidelines, preschool education is the education which targets the children between the age group of 3 to 6 years. It is also known as pre-primary education. Various models of preschool education are followed in our country, keeping in mind the vast socio-economic landscape like anganwadis, nursery schools,

preschools, preparatory schools, kindergartens etc. In the selected states, the age group kept in mind to formulate the curriculum is also between 3 to 6 years, thus keeping in line with the NCERT guidelines. However, considering the low enrolment rates in preschools (often preschool learners are not able to enrol at the appropriate time due to financial conditions, lack of awareness, social stigma, religion etc.) provision and guidelines should in place to include the out of system children.

**Principle**

The vision of preschool education as per NCERT guidelines is that it should promote universal, equitable access which is inclusive and contextualised (Training, 2019). The goal should be the holistic development of every child. The active involvement of parents and teachers is crucial to the success of education and the stimulation of a positive learning environment. Therefore, it is essential to establish strong foundations that will support future learning in school. The vision and principles of the selected states align closely with this philosophy. However, it is important to note the absence of an "inclusivity" perspective in both the vision and the content of the state curricula.

**Approach**

NCERT guidelines highlight three major approaches of curriculum transaction namely - Theme based, Project based and Emergent curriculum. Theme based approach divides the everyday concepts that are useful for children. In Project based approach, a single concept is studied in depth with the help of the educator. Emergent curriculum refers to a process where the teachers customise the activities according to the specific group of children they work with, keeping in mind their age, learning needs, interests etc. In the entire selected states curriculum, a theme-based approach to learning can be seen. The concepts are taught in an interactive and simulative process; however, the curriculum is divided into themes. For each month, different activities revolve around a central theme or concept like - family, air, water, plants etc. which is taught to the preschool learners.

**Skills and Concepts to be Developed**

The curriculum addresses all the domains of development through learning outcomes and key concepts for children such as language, sensory development, cognitive development, self, awareness of environment and use of technology. The state curriculums also follow through devising the curriculum with respect to similar domains with minor modifications.

**Assessment of Learning Outcomes**

NCERT curriculum emphasizes that assessment must be based on qualitative judgements of children's activities such as status of their health, nutrition, physical and social well-being. Any form of test or examination, either oral or written is not advocated in NCERT curriculum for children's learning outcomes (Training, 2019). NCERT recommends that assessment should provide directions to learn new skills and focus only upon child's strength (Training, 2019). The state curriculum of Delhi and J&K assess learning outcomes in the form of children's personal, social and environmental

development, language development, literacy, sensory motor development, numerology development, their understanding of surroundings and their artistic expression (State Council of Education Research & Training (SCERT), 2018; State Mission Directorate, 2018). Thus, state curriculums majorly rely on NCERT recommended assessment parameters for learning outcomes.

**Inclusion of Children with Special Needs**

Disabled children or children with special needs like any other children interact with the surrounding environment, the people, the objects and the activities. However, the surrounding environment sometimes may not be suitable to meet the requirements of children with special needs. Disability as a form of social diversity affects not only the one and one's close relatives, but also the society and the nation as well. A nation, therefore, has the responsibility to educate and take care of such children. Right from the onset, NCERT guidelines includes characteristics of each disability, supportive services/care and referrals and assistive devices needed to address the challenges for disabled children (Training, 2019). However, this is not the case with the state curricula, as none of them explicitly mention disability or inclusion. It is strongly recommended that states with limited or weak approaches to disability incorporate this issue into their curriculum. The curriculum could propose inclusive strategies tailored to the needs of children with disabilities, aligning with the NCERT curriculum guidelines.

**Use of Local Resources**

NCERT guidelines highly recommend use of local and readily available indigenous materials as learning resources for children (Training, 2019). It can be seen across all state curricula that activities are planned keeping in mind locally available resources.

**Flexibility to Educators**

NCERT guidelines encourage flexibility, creativity and innovation on part of educators/curriculum implementers. It suggests that the educator can take the decision on adapting activities and schedules to suit the learners (Training, 2019). However, in the state curriculum, it is clear to see that the curriculum is not as flexible as NCERT and teachers follow the curriculum as scheduled or finalized earlier.

**Parental Involvement**

Parents' involvement in ECCE programme has been recognized since the time of Froebel as a key factor for success in all curricula.NCERT guidelines clearly view parental involvement in the learning process as indispensable and highly encourage preschools to involve parents (Training, 2019). However, parental involvement is not mentioned as an important factor in none of the states studied.

**Table 1: Comparative analysis of preschool curriculums of Delhi and Jammu & Kashmir with NCERT prescribed preschool curriculum.**

| Indicators | Delhi | Jammu and Kashmir | NCERT |
|---|---|---|---|
| **Target group** | The curriculum is designed for the children belonging to age group of | | |

| | 3-6 years | | |
|---|---|---|---|
| **Principle** | A lively and stimulating environment to the children and learning by doing | Child initiated and teacher- led activities | Holistic, developmentally appropriate, indigenous and play or activity based |
| **Approach and Theme** | Theme based approach is used with the similar pattern of themes like; Myself, seasons, festivals, animals, means of transport, people who help us, things around us | | Different approaches for curriculum: theme based, activity based, project/enquiry based, and emergent curriculum |
| **Key Skills and Concepts to be Developed** | Delhi & Jammu and Kashmir primarily focused on Five major developmental domains i.e. Physical, Cognitive & intellectual, sensory, socio-emotional. | | The curriculum addresses all the domains of development through learning outcomes and key concepts for children such as Language, sensory development, cognitive development, self, awareness of environment and use of technology. |
| **Early Learning Outcomes** | Learning outcomes are assessed in the form of children's personal, social and environmental development, language development, literacy, sensory motor development, numerology development, their understanding of surroundings and their artistic expression. | J&K curriculum assessment criteria include personal hygiene, physical development, language development, cognitive development, involvement in indoor and outdoor activities, socio-economic development and reading and writing readiness. | NCERT advocates that assessment must be based on qualitative judgements of children's activities, status of their health, nutrition, physical and social well-being. Any form of test or examination, either oral or written should not be conducted for children's learning outcomes. Assessment should provide directions to learn new skills and focus only upon child's strength. Assessment should help in identifying the children who have |

| | | | |
|---|---|---|---|
| | | | special needs. |
| **Inclusion of Children with Special Needs** | No section or adaptations have been provided for the suggested activities in the curriculum | | Inclusion and early interventions for the children with disabilities is suggested. |
| **Use of Local Resources and Visits** | Use of locally available resources and local visits are suggested. | | Uses of locally available and *indigenous* resources are suggested. |
| **Flexibility to the Educators** | The activities are time bound and specified. The educators can however change the sequence of activities as they deem fit. | The activities are time bounded. The day's routine is outlined in the activity book, provided to the AWWs. No flexibility to the educator. | Teachers can use a flexible approach as well. |
| **Parents involvement** | No active participation of parents is defined | | A very active parent and community involvement and linkage are advised. |

## Conclusion

Curriculum is a step by step designing of what, why, when and how the teaching learning process will take place in a specific context. The curriculum should be comprehensive and structured in nature with a clear and strategic vision of holistic and inclusive development of all students with the aim of providing them with the essential knowledge, skills and competencies, which in turn reassures quality learning outcomes. In the present study, two state curriculums are studied in line with the curriculum prescribed bythe NCERT and as a result their common core of values and objectives becomes visible as well as their differences in view.

The analysis of the preschool curricula adopted by the governments of Delhi and Jammu & Kashmir highlights several key aspects in relation to the guidelines set by NCERT. Both states have developed curriculums that prioritize the holistic development of children,

incorporating a theme-based approach to foster cognitive, language, sensory, and social growth. While the curricula of both states are flexible and adaptive to children's needs, aligning with the core principles outlined by NCERT, there are certain areas where improvements can be made. Notably, the absence of a clear inclusivity perspective in both state curricula is a significant gap, especially considering the importance of addressing the needs of children with disabilities. It is recommended that both states should revise their curricula to include inclusive strategies, in line with NCERT's recommendations, to ensure that all children, regardless of their abilities, can thrive in the preschool environment. Furthermore, although the curricula emphasize active teaching methods and flexible schedules, the role of parental involvement is not explicitly highlighted, which could be an area for further development, given its recognized importance in early childhood education.

In conclusion, while both the Delhi and Jammu & Kashmir state curricula align broadly with NCERT guidelines, there are areas particularly around inclusivity, flexibility, and parental involvement that require attention. Addressing these gaps would ensure a more comprehensive and inclusive approach to preschool education, ultimately contributing to the success of early childhood education reforms in India.

**Implications for Study**

The findings of this study will be valuable to policymakers, curriculum designers, parents, and teachers. Additionally, these results can serve as a benchmark and provide preliminary evidence for conducting similar studies in different states. Overall, the insights gained from this study may contribute to the development of developmentally appropriate curricula for preschoolers.

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# Constitutional Values Guide our Educational Policies: A Critical Analysis of Perspective of Prof. Mami Dala Jagadesh Kumar (UGC Chairman)

**Shabnam[1] & Savita Kaushal[2]**

"National Education Policy 2020 is guided by the Ideals of Equity, Quality, Accountability and Affordability enshrined in our constitution ... schemes for loans, Internship, wider access and promotion of linguistic diversity are driven by such Values"

**(Hon. Chairman of UGC, Prof. M. Jagdesh Kumar, 2024)**

**Abstract**

*Constitutional values are crucial in shaping educational policies as they emphasize onvalues of justice, equality, and freedom. These values ensure inclusivity, safeguard the rights of all students, and foster a democratic ethos within, educational settings. This paper examines the vital role of constitutional values in shaping educational policies, focusing on the perspective of Prof. Mami Dala Jagadesh Kumar, Chairman of the University Grants Commission (UGC). Employing a qualitative research design, the methodology comprised a thematic analysis of public speeches, interviews, and media reports from Prof. Kumar, along with a review of relevant literature to assess the alignment of educational initiatives with these constitutional values. Critical discourse analysis is utilized to identify recurring themes, such as equity and inclusivity, ensuring a comprehensive understanding of the interplay between constitutional values and educational policies. The findings revealed both successful integrations of these values in policies and practices. The analysis underscores the impact of constitutional values in fostering a more inclusive educational environment. The paper concludes by providing recommendations for policymakers and educational leaders to strengthen the integration of these values in future reforms, ultimately promoting a just and equitable educational framework that aligns with India's constitutional commitments.*

***Keywords:*** *Constitution Values, Education Policies, Perspective, Equity, Equality, NEP2020*

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## Introduction

The Indian Constitution, a cornerstone of the nation's democracy, serves as a guiding force for various societal structures, including education (Debnath, 2013). The Constitution of India embodies certain fundamental values, and the Preamble of the Constitution encapsulates these values (Kashyap, 1995). Rooted in the principles of justice, equality, liberty, and fraternity, the Constitution provides a framework for the holistic development of individuals and society.

In the context of education, constitutional values such as equality, justice, and freedom serve as basic deals that guide the development and implementation of policies. Equality ensures that all students, regardless of background, have equal access to educational resources and opportunities and fosters a diverse and inclusive learning environment (Kiran, 2018). Justice upholds the rights of students, fairness in treatment and discipline within educational institutions. Freedom allows for academic expression and the exchange of ideas, encouraging critical thinking and creativity among learners. These values collectively contribute to the formation of an educational framework that respects rights while nurturing responsible citizens(Binesh, 2010).

Educational policies in India are designed to reflect the essence of constitutional Values of justice, liberty, equality, and fraternity and provide guidance for the development of educational mechanisms aimed at fostering inclusivity, fairness, and holistic growth among students (Kumar, 2024). RecentNational Education Policy (NEP) 2020 aligns with constitutional mandates by prioritizing equity, quality, and accountability in the education system (Kumar, 2023). For instance, the NEP emphasizes multilingualism, gender parity, and technological integration to bridge educational disparities, ensuring alignment with the Constitution's vision of justice and equality (Ismayil, 2021). In essence, the symbiotic relationship between constitutional values and educational policies underpins the transformative potential of education in India (Mithesh & Patel, 2017). By integrating these ideals into the educational framework, policymakers aim to cultivate responsible citizens, and build a resilient democracy. The University Grants Commission (UGC) Chairman Professor M. Jagadesh Kumar emphasize aligning educational policies with these constitutional values to foster a just and equitable society (The New Indian Express, 2024).This paper examines the perspective of the University Grants Commission (UGC) Chairman Prof. Mami Dala Jagadesh Kumar's perspective on integrating constitutional values into educational policies. His insights provide valuable implications for understanding how these principles can enhance policy formulation, promote equity, and foster an educational environment that aligns with India's constitutional commitments. Through this analysis, the study aims to illuminate the crucial role of constitutional values in shaping a just and equitable educational landscape, ultimately contributing to the broader goals of national development and social justice.

**Research Question**

How do constitutional values influence the formulation and practices of educational policies in India, with specific reference to the perspectives of the UGC Chairman Prof. M. Jagadesh Kumar?

**Objectives**

To examine the perspectives of UGC Chairman Prof. M. Jagadesh Kumar on how constitutional values guide educational policies in India.

**Rationale/Knowledge Gap**

Prof.Kumar's tenure as the UGC Chairman has been marked by significant reforms and public discussions on aligning education with constitutional and national aspirations. This research aims to bridge the knowledge gap by critically analysing Kumar's perspectives. By doing so, the study will provide deeper insights into the interplay between constitutional values and policy-making, contributing to a more nuanced understanding of India's evolving educational landscape**.**

**Methodology of the Study**

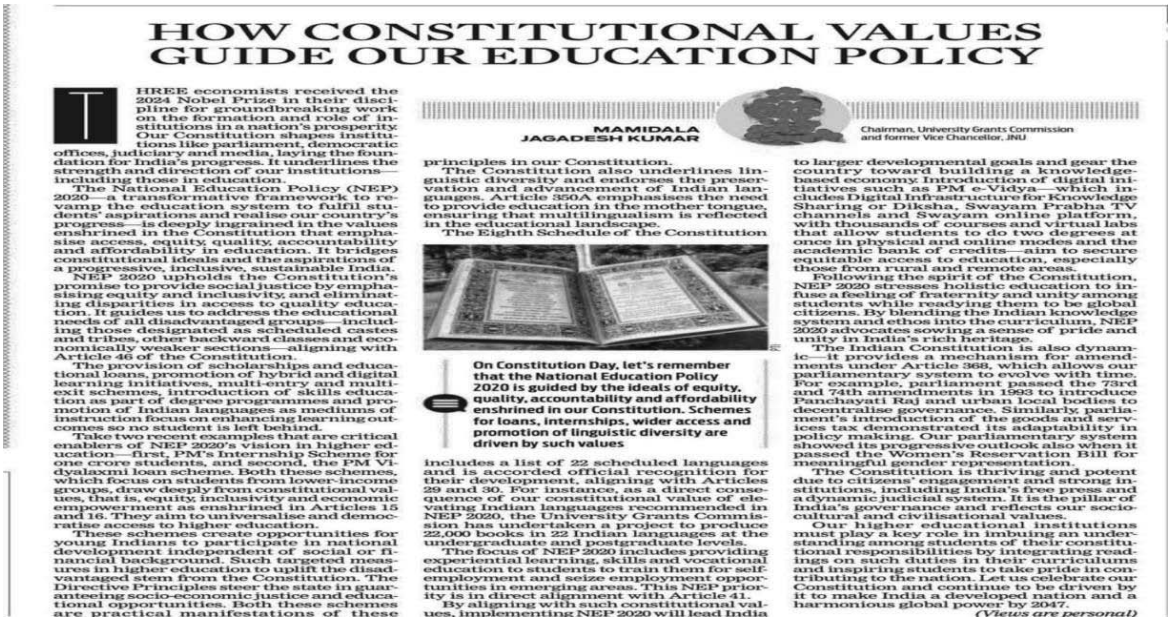
This study employs a qualitative research design to critically analyse how constitutional values guide educational policies from the perspective of the UGC Chairman Prof. M. Jagadesh Kumar. The research focuses on exploring and interpreting the alignment between constitutional values and educational policies, as reflected in Kumar's initiatives, speeches, and reforms. Data was collected from an in-depth analysis of public speeches, interviews, media reports, and statements made by Prof. Kumar related to education policies. Additionally, a comprehensive review of the existing literature was conducted to understand the broader influence of constitutional values on Indian educational policies.

A purposive sampling technique was employed to select specific speech, policy documents, and secondary sources explicitly relevant to the role of constitutional values in shaping educational policies.The data analysis involved thematic analysis to identify recurring themes related to constitutional values such as equity, justice, equality, and inclusivity.These themes were used to examine their reflections on Kumar's statements. Furthermore, critical discourse analysis was applied to scrutinize his interviews, media reports, and statements, focusing on the framing of constitutional values in educational policies and identifying patterns, emphases, and potential gaps.

To ensure the reliability and credibility of the findings, triangulation was performed by cross-referencing data from primary and secondary sources. Additionally, peer debriefings and expert consultations were conducted to validate the interpretations. All data utilized in this study were sourced from publicly available materials and adhered to ethical research practices.Proper attribution was provided for all secondary sources to maintain academic integrity and transparency in the research process. Further, the study is limited to analyzing policies and initiatives during Prof. Kumar's tenure as UGC

Chairman and does not aim to generalize the findings to broader educational governance in India.

## Thematic Analysis of Perspective of UGC Chairman Prof. Mami Dala Jagadesh Kumar in Light of NEP2020



HOW CONSTITUTIONAL VALUES GUIDE OUR EDUCATION POLICY

THREE economists received the 2024 Nobel Prize in their discipline for groundbreaking work on the formation and role of institutions in a nation's prosperity. Our Constitution shapes institutions like parliament, democratic offices, judiciary and media, laying the foundation for India's progress. It underlines the strength and direction of our institutions—including those in education.

The National Education Policy (NEP) 2020—a transformative framework to revamp the education system to fulfil students' aspirations and realise our country's progress—is deeply ingrained in the values enshrined in the Constitution that emphasise access, equity, quality, accountability and affordability in education. It bridges constitutional ideals and the aspirations of a progressive, inclusive, sustainable India.

NEP 2020 upholds the Constitution's promise to provide social justice by emphasising equity and inclusivity, and eliminating disparities in access to quality education. It guides us to address the educational needs of all disadvantaged groups—including those designated as scheduled castes and tribes, other backward classes and economically weaker sections—aligning with Article 46 of the Constitution.

The provision of scholarships and educational loans, promotion of hybrid and digital learning initiatives, multi-entry and multi-exit schemes, introduction of skills education as part of degree programmes and promotion of Indian languages as mediums of instruction focus on enhancing learning outcomes so no student is left behind.

Take two recent examples that are critical enablers of NEP 2020's vision in higher education—first, PM's Internship Scheme for one crore students, and second, the PM Vidyalaxmi loan scheme. Both these schemes, which focus on students from lower-income groups, draw deeply from constitutional values, that is, equity, inclusivity and economic empowerment as enshrined in Articles 15 and 16. They aim to universalise and democratise access to higher education.

These schemes create opportunities for young Indians to participate in national development independent of social or financial background. Such targeted measures in higher education to uplift the disadvantaged stem from the Constitution. The Directive Principles steer the state in guaranteeing socio-economic justice and educational opportunities. Both these schemes are practical manifestations of these principles in our Constitution.

MAMIDALA JAGADESH KUMAR

Chairman, University Grants Commission and former Vice Chancellor, JNU

The Constitution also underlines linguistic diversity and endorses the preservation and advancement of Indian languages. Article 350A emphasises the need to provide education in the mother tongue, ensuring that multilingualism is reflected in the educational landscape.

The Eighth Schedule of the Constitution includes a list of 22 scheduled languages and is accorded official recognition for their development, aligning with Articles 29 and 30. For instance, as a direct consequence of our constitutional value of elevating Indian languages recommended in NEP 2020, the University Grants Commission has undertaken a project to produce 22,000 books in 22 Indian languages at the undergraduate and postgraduate levels.

The focus of NEP 2020 includes providing experiential learning, skills and vocational education to students to train them for self-employment and seize employment opportunities in emerging areas. This NEP priority is in direct alignment with Article 41.

By aligning with such constitutional values, implementing NEP 2020 will lead India to larger developmental goals and gear the country toward building a knowledge-based economy. Introduction of digital initiatives such as PM e-Vidya—which includes Digital Infrastructure for Knowledge Sharing or Diksha, Swayam Prabha TV channels and Swayam online platform, with thousands of courses and virtual labs that allow students to do two degrees at once in physical and online modes and the academic bank of credits—aim to secure equitable access to education, especially those from rural and remote areas.

Following the spirit of the Constitution, NEP 2020 stresses holistic education to infuse a feeling of fraternity and unity among students while readying them to be global citizens. By blending the Indian knowledge system and ethos into the curriculum, NEP 2020 advocates sowing a sense of pride and unity in India's rich heritage.

The Indian Constitution is also dynamic—it provides a mechanism for amendments under Article 368, which allows our parliamentary system to evolve with time. For example, parliament passed the 73rd and 74th amendments in 1993 to introduce Panchayati Raj and urban local bodies to decentralise governance. Similarly, parliament's introduction of the goods and services tax demonstrated its adaptability in policy making. Our parliamentary system showed its progressive outlook also when it passed the Women's Reservation Bill for meaningful gender representation.

The Constitution is thriving and potent due to citizens' engagement and strong institutions, including India's free press and a dynamic judicial system. It is the pillar of India's governance and reflects our socio-cultural and civilisational values.

Our higher educational institutions must play a key role in imbuing an understanding among students of their constitutional responsibilities by integrating readings on such duties in their curriculums and inspiring students to take pride in contributing to the nation. Let us celebrate our Constitution and continue to be driven by it to make India a developed nation and a harmonious global power by 2047.

*(Views are personal)*

On Constitution Day, let's remember that the National Education Policy 2020 is guided by the ideals of equity, quality, accountability and affordability enshrined in our Constitution. Schemes for loans, internships, wider access and promotion of linguistic diversity are driven by such values

Source: (New Indian Express News Paper, 2024), https://www.newindianexpress.com

## Themes for Data Analysis

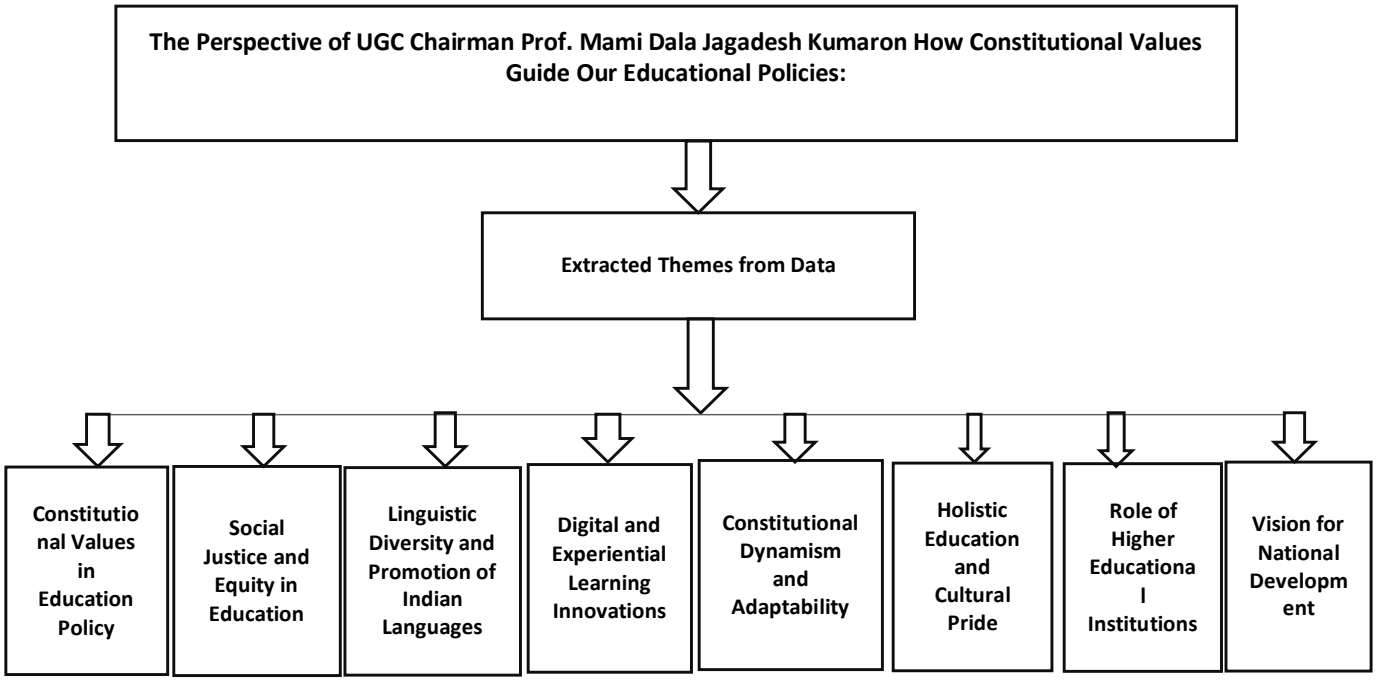



**Figure-1 Themes Source: Created by Author (Shabnam, 2024)**

Theanalysis involvedsynthesizing findings from the data collected, focusing on key themes that emerged from Prof. Kumar's writings and speeches.:

**Constitutional Values in Education Policy**

Prof. Kumar's Speech highlighted the role of constitutional values such as equity, justice, and inclusivity in shaping NEP 2020. The alignment of NEP 2020 with Articles 15, 16, 29, 30, 41, 46, and 350A shows the policy's emphasis on equitable access, quality education, and inclusivity for all, particularly marginalized groups. This indicates how constitutional values directly guide policy design.

**Social Justice and Equity in Education**

Prof. Kumar's interview underscored NEP 2020's role in addressing educational disparities through targeted initiatives. For example, the PM Vidyalaxmi Loan,and PM Internship Scheme are practical applications of Articles 15 and 16, focusing on uplifting students from economically weaker sections. These schemes operationalize social justice and inclusivity by democratizing access to education, providing financial support, and creating opportunities for disadvantaged groups to participate in national development.

**Linguistic Diversity and Indian Languages**

Prof. Kumar stressed the importance of preserving India's linguistic heritage, as Articles 29, 30, and 350A mandated. NEP 2020's initiatives, such as the UGC's project to produce books in 22 Indian languages, align with this constitutional directive, ensuring linguistic diversity in higher education. These efforts reflect the Constitution's emphasis on multilingualism and cultural preservation.

**Digital Learning**

Prof. Kumar shed light on Digital initiatives such as PM e-Vidya, DIKSHA, and SWAYAM, designed to bridge the rural-urban divide in education. These initiatives embody constitutional values of equity and access, ensuring that students from remote and rural areas have access to quality education. The focus on experiential learning and skills training further aligns with Article 41, preparing students for emerging employment opportunities and fostering economic self-reliance.

**Cultural Pride and Holistic Education**

The NEP 2020 framework emphasize holistic education to promote fraternity, unity, and global citizenship, reflecting the Constitution's emphasis on national integration. By incorporating the Indian knowledge system into curricula, the policy fosters pride in India's rich cultural heritage, blending constitutional values with contemporary educational needs.

**Constitutional Dynamism and Adaptability**

According to Prof. Kumar adaptability of the Indian Constitution, as highlighted in its provisions for amendments (Article 368), resonates with NEP 2020's ability to address

evolving educational and societal needs. Prof. Kumar mentioned progressive measures such as the Women's Reservation Bill and GST reforms which indicate the dynamic alignment of governance and education policy with constitutional values.

**Role of Higher Educational Institutions**

Prof. Kumar expressed higher educational institutions are portrayed as key agents in promoting constitutional values and civic responsibility. Integrating constitutional values into the curriculum aims to develop a sense of pride among students and motivate them to contribute to nation-building, reflecting the Constitution's socio-cultural ethos.

**Vision for National & Integration Development**

Prof. Kumar connects NEP 2020's goals to India's aspirations of becoming a Viksit Bharat by 2047. The alignment of educational policies with constitutional values ensures a pathway for inclusive and sustainable progress, reaffirming the Constitution's guiding role in national development.

**Constitutional Values in NEP 2020**: NEP 2020 is well-rooted in the values of the Constitution as it addresses the issues of equity, quality, accountability, and affordability in an educational setting. This aligns with building more inclusive frameworks around education to prevent disparities in quality access to it.

**Emphasis on Marginalized Communities**: National Education Policy 2020 is very much centred on the educational needs of underprivileged sections. These include Scheduled Castes, Scheduled Tribes, Other Backward Classes, and economically deprived sections. Its focus is to remove inequalities and ensure all students have the opportunity to learn knowledge and skills.

The main initiatives include the PM's Internship Scheme, and the PM Vidyalaxmi loan scheme, among others, as key enablers of the vision of NEP through empowering students from lower-income backgrounds and democratizing access to higher education.

**Holistic and Experiential Learning**: The policy promotes experiential learning and vocational education, preparing students for self-employment and emerging job opportunities. This approach reflects the constitutional entitlement to education and public assistance, ensuring educational opportunities for all.

**Civic Responsibility and Cultural Awareness**: The NEP fosters fraternity and unity among students, incorporating Indian knowledge systems into the curriculum to nurture engaged and responsible global citizens.

**Discussion**

The findings show how the principles of the Constitution are manifested in education policy and the extent to which such policies can impact a just and fair society. The findings concur with existing scholarly literature, which emphasizes social justice and equity in education policy reforms. For instance, Harugade (2024) traces the development of reservation policies as outlined under Article 15 of the Indian

Constitution, noting their role in social justice towards the educational environment. In a similar direction, Kumar (2024) presents a comprehensive analysis of the challenges and opportunities of higher education in India, indicating the long-lasting impact of historical inequalities on contemporary educational policies. In addition, the National Education Policy's focus on inclusivity and linguistic diversity is in line with Joshee's (2024) research on educational equity in India, which underscores the need to make room for the needs of diverse populations to promote a more just educational landscape. These relationships exemplify the essential interconnections between constitutional obligations and educational necessities, thereby reinforcing the requirement for policies that embody and implement constitutional principles in the quest for a fair and equitable educational environment in India.

**Implications**

From a policy perspective, ensuring the integration of constitutional values into education in the coming years requires a multi-pronged approach that includes curriculum reform, teacher training, inclusivity, partnerships, technology, assessment, and research. Focusing on these domains enables educational policies to not only preserve the values outlined in the Constitution that form the foundation of our civil society, but also work towards the advancement of an equitable, just and democratic society. The changing face of education emphasizes that strong adherence to constitutional principles will play a crucial role in shaping citizens who are not only well-informed but also builds advocacy committed to upholding democratic ideals and social justice.

**Conclusion**

The findings from Prof. Kumar's perspective revealed a thorough integration of constitutional values into NEP 2020, with focused efforts on social justice, inclusivity, linguistic diversity, and economic empowerment. These observations underscore the significant role of education in relating constitutional values to the progressive objectives of India. Professor Kumar has underlined the crucial role of education in fostering national integration, social cohesion, and the development of a scientific temperament among students (The New Indian Express, 2024). The National Education Policy 2020 is a significant step toward realizing the constitutional vision of a just and equitable educational system in India. The continuous discourse over these policies calls for active involvement by the stakeholders, which will ensure that the principles as espoused in the Constitution are reflected in practice and that all citizens' educational needs are met.

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# Constitutional Values and Curriculum: Aligning Education with Democratic Ideals

**Pooja Rajak**[1]

**Abstract**

*Constitutional values such as justice, equality, liberty, and fraternity are essential pillars of democratic societies, shaping their social and political frameworks. These principles support governance, uphold democracy, and promote social cohesion. Integrating these values into the education system is vital for fostering ethical, responsible citizens who actively participate in democratic processes. This paper explores the connection between constitutional values and curriculum design, proposing strategies to embed these ideals within educational frameworks. By prioritizing social awareness, the paper highlights the benefits of such an integration, including developing informed, empathetic individuals who contribute positively to society. However, challenges persist, including accommodating cultural diversity and ensuring equitable implementation across regions. Drawing insights from global case studies, the paper identifies successful approaches to curriculum reform that balance academic achievement with the cultivation of socially conscious citizens. The recommendations outlined in this paper aim to guide educators in designing learning environments that place constitutional values at the forefront. By doing so, students can gain not only knowledge but also build the ethical foundation necessary for meaningful participation in a democratic society. Emphasizing both academic and moral development, the integration of constitutional values into education ensures that future generations are prepared to address social challenges while upholding democratic ideals.*

***Keywords:*** *Constitutional values, Democratic societies, Justice, Equality, Liberty, Fraternity, Social and political framework, Ethical citizens*

## Introduction

Education plays a vital role in shaping individuals and societies by providing not just knowledge but also instilling values, attitudes, and essential skills. In democratic nations, constitutional values like justice, equality, liberty, and fraternity form the bedrock of

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social and political systems, ensuring effective governance and fostering social harmony. The curriculum serves as a powerful vehicle for conveying both knowledge and societal values, making it an ideal medium for integrating constitutional principles into the educational process. This study explores the relationship between constitutional values and curriculum design, emphasizing the importance of nurturing well-rounded citizens who are aware of their rights and responsibilities. By promoting justice and equality, the curriculum can empower students to actively engage in democratic processes. Incorporating constitutional ideals into education not only strengthens the democratic structure of society but also equips future generations with the ethical framework needed to address societal challenges. The research highlights the importance of a balanced approach that prioritizes both academic excellence and the development of socially aware, responsible individuals who can contribute positively to their communities.

**Domestic Values and their Significance**

Domestic values are fundamental principles that guide interactions within families and communities, shaping individual character and fostering social harmony. These values are instilled through cultural traditions, upbringing, and daily interactions, promoting a sense of duty, mutual respect, and cooperation. Key domestic values include:

- Respect: Valuing and honouring elders, peers, and community members. This helps maintain harmony and mutual understanding.
- Honesty: Being truthful and maintaining integrity in personal and professional relationships. It builds trust and credibility.
- Responsibility: Taking ownership of one's actions, fulfilling obligations, and contributing positively to family and society.
- Compassion: Demonstrating empathy and kindness. It strengthens relationships and creates a supportive environment.
- Discipline: Practicing self-control and adhering to ethical and social norms, contributing to a well-structured and balanced life.

These values are the foundation for personal development and social cohesion, complementing constitutional principles in fostering responsible and ethical citizens.

**Theoretical Foundations**

Several scholars have contributed to the discourse on education and constitutional values:

- **John Dewey (1916):** Advocated for experiential learning and democratic participation in education.
- **Amy Gutmann (1987):** Emphasized the role of democratic education in fostering civic responsibility.

- **Martha Nussbaum (2011):** Proposed the human development approach, linking education to justice and equality.
- **Amartya Sen (2009):** Explored justice and its implications for education and policy-making.

**Strategies for Aligning Curriculum with Democratic Ideals**

To ensure the effective integration of constitutional values, educational curricula should:

1. **Embed Civic Education:** Courses on governance, law, and human rights should be mandatory.
2. **Promote Critical Thinking:** Encourage open discussions and debates on contemporary social issues.
3. **Incorporate Experiential Learning:** Engage students in community service and participatory governance activities.
4. **Foster Inclusive Pedagogy:** Ensure diverse representation in textbooks and teaching materials.
5. **Encourage Ethical Reasoning:** Teach moral philosophy and ethics to develop a strong sense of justice and fairness.

Aligning education with constitutional values is imperative for sustaining democratic ideals. By incorporating justice, equality, liberty, fraternity, and secularism into curricula, educational institutions can equip students with the knowledge and skills necessary for responsible citizenship. As nations evolve, continuous adaptation of educational frameworks will be essential to uphold and reinforce these democratic principles.

**Constitutional Values and their Role in Society**

Constitutional values represent the core ideals embedded in a nation's constitution, forming the ethical and legal framework of governance. These principles influence the way individuals interact with one another and the State. Key constitutional values essential for democratic societies include:

- **Justice**: Ensuring fairness in the distribution of rights, responsibilities, and opportunities, guaranteeing equal treatment under the law.
- **Equality**: Upholding the principle that all individuals, regardless of their background, are entitled to the same rights and opportunities.
- **Liberty**: Protecting individual freedoms and allowing people to pursue their aspirations while respecting societal norms.
- **Fraternity**: Fostering a sense of unity, mutual respect, and solidarity within society.
- **Secularism**: Maintaining a separation between religion and the state, ensuring individuals can practice their faith freely without government influence.

Embedding these values within the education system is essential for nurturing informed, ethical, and engaged citizens who contribute positively to society.

**The Role of Curriculum in Promoting Constitutional Values**

The curriculum extends beyond being a collection of academic subjects; it mirrors the societal values and priorities of a nation. A curriculum infused with constitutional values aspires to achieve not only intellectual development but also moral growth and a sense of social responsibility. Incorporating these values can be approached through several strategies:

**1. Subject Integration**

- **Social Studies and Civics**: These subjects provide a platform for discussing constitutional principles, governance, and democratic processes. Students gain insights into the rule of law, the functioning of democratic institutions, and the importance of safeguarding rights and freedoms.
- **Literature and Language**: Literature, through stories, poetry, and essays, serves as a powerful tool to explore themes like justice, equality, and liberty. These discussions enable students to relate abstract principles to real-world contexts, deepening their understanding of constitutional values.
- **Science and Ethics**: Science education can highlight ethical concerns arising from technological advancements. By addressing societal impacts, students are encouraged to assess scientific developments through the lens of justice and equality, integrating ethical considerations into decision-making.

**2. Skill Development**

- **Debate and Critical Thinking**: Debating topics related to constitutional values, such as democracy, social justice, and individual rights, fosters critical thinking and analytical skills. It encourages students to approach complex issues from diverse perspectives.
- **Community Engagement**: Participation in community service instills civic responsibility. Activities like volunteering and supporting social causes help students embrace the values of fraternity and solidarity, promoting collective well-being.

**3. Pedagogical Approaches**

- **Inquiry-Based Learning**: This method encourages students to investigate constitutional issues through research and problem-solving. It empowers them to take ownership of their learning, cultivating a deeper connection to constitutional principles.

- **Collaborative Learning**: Collaborative approaches emphasize teamwork, respect for differing opinions, and shared responsibility. These practices reflect democratic ideals and nurture cooperation and mutual understanding among students.

By integrating these strategies, the curriculum can shape students into informed, ethical, and socially responsible citizens equipped to uphold democratic values.

**Merits of Integrating Constitutional Values into Curriculum**

Integrating constitutional values into the curriculum brings significant benefits to both students and society as a whole:

**1. Moral and Civic Growth**

Embedding constitutional values in education fosters a strong ethical foundation in students, equipping them to act responsibly and uphold societal well-being. By understanding principles such as justice, equality, and liberty, students are encouraged to make decisions that positively impact their communities.

**2. Fostering Inclusivity**

An inclusive curriculum cultivates respect for diversity and helps students value differences. By teaching the importance of equality and combating discrimination, students learn to embrace diversity and contribute to creating a more equitable and inclusive society.

**3. Promoting Active Citizenship**

Education that emphasizes constitutional values equips students to participate meaningfully in democratic processes. It instils awareness of their rights and responsibilities as citizens, inspiring them to engage in community activities and political life, thereby fostering societal progress.

**4. Developing Critical Thinking**

Incorporating constitutional values enhances students' critical thinking skills, enabling them to analyse complex social, political, and ethical challenges through the lens of democratic principles. This empowers them to make informed decisions, engage in constructive discussions, and contribute thoughtfully to societal issues.

By embedding these values into the curriculum, education becomes a transformative tool that not only imparts knowledge but also nurtures morally upright, socially aware, and actively engaged citizens.

**Challenges in Integrating Constitutional Values into the Curriculum**

While integrating constitutional values into the curriculum offers numerous advantages, it also presents several challenges:

**1. Resistance to Change**

Traditional education systems often prioritize rote memorization and academic performance over civic engagement and ethical reasoning. Introducing constitutional values requires significant shifts in teaching methods, which may face resistance from educators, school administrators, and policymakers accustomed to conventional approaches.

**2. Limited Resources**

Many countries face resource constraints that hinder curriculum reform efforts. Expanding teacher training programs and developing educational materials that incorporate constitutional principles require significant investment. Financial limitations can impede the effective implementation of these changes in schools.

**3. Cultural and Political Diversity**

The interpretation of constitutional values can vary widely across cultural, religious, and political contexts. This diversity poses challenges in delivering a standardized and consistent approach to teaching these values across regions and communities.

**4. Curriculum Overload**

Adding content focused on constitutional values to an already packed curriculum can lead to overload, making it difficult for teachers to address both academic subjects and moral education effectively. Striking a balance between these priorities can be a significant challenge for educators.

Addressing these challenges requires careful planning, investment in resources, and a collaborative approach to ensure that constitutional values are seamlessly integrated into educational systems without compromising other key learning objectives.

**Global Perspectives on Constitutional Values in Education**

Examining how various countries have incorporated constitutional values into their educational frameworks offers valuable lessons:

**1. United States**

1) In the U.S., civic education is crucial in teaching constitutional values. Programs like "We the People" offer students a comprehensive understanding of the Constitution, the Bill of Rights, and democratic institutions. Through activities like mock trials, debates, and discussions, students are encouraged to engage in active citizenship. (U.S. Department of Education, 2017)

**2. Finland**

Finland’s education system prioritizes ethical learning and active citizenship. The national curriculum emphasizes values such as equality, inclusion, and democratic participation. Students are encouraged to critically analyse societal issues and actively

engage in decision-making processes, both at school and in the wider community. (Finnish National Agency for Education, 2014)

**3. India**

India's National Education Policy (NEP) 2020 highlights the importance of teaching constitutional values such as democracy, secularism, and social justice. The policy aims to incorporate these values into the curriculum through teacher training and reforms designed to help students recognize their responsibilities as active and informed citizens. (Ministry of Education, Government of India, 2020)

These examples demonstrate how different nations embed constitutional values in their education systems to cultivate responsible, informed citizens who contribute to democratic processes.

**Strategies to Overcome Challenges in Integrating Constitutional Values into the Curriculum**

Integrating constitutional values into educational curricula presents numerous challenges, but there are effective strategies to address these obstacles. By focusing on curriculum design, teacher training, community involvement, and assessment reforms, educational systems can ensure that constitutional principles are taught comprehensively and meaningfully. The following elaborates on each of these strategies:

1. **Curriculum Design:** Curriculum design is one of the most effective ways to integrate constitutional values into education. Constitutional values such as justice, equality, liberty, fraternity, and secularism should be woven throughout all subjects and at every grade level. This ensures that students are not only exposed to these principles in civic education classes but also understand their real-world applications across various fields of study.

- **Interdisciplinary Approach**: Integrating constitutional values into subjects like social studies, history, literature, as well as science is crucial for developing a well-rounded understanding and application of the said values. For example, in history classes, students can learn about the development of constitutional values over time, while in literature, they can explore themes related to justice and equality in the context of the characters' experiences. Mathematics and science, too, can incorporate discussions on fairness and equality, particularly in areas like data representation or scientific ethics.

- **Age-Appropriate Content**: The curriculum should ensure that materials are age-appropriate and relevant to students' daily lives. For younger students, learning about justice might involve stories of fairness and kindness, while older students can analyse constitutional debates or case studies of civil rights movements. This ensures that students connect these values to their experiences, making learning these values more tangible and impactful.

- **Real-Life Applications**: Curriculum design should focus on linking constitutional values to current social, political, and economic issues. For example, discussions about equality might be tied to gender or racial equality movements, while liberty could be explored in the context of freedom of speech. This contextual approach makes constitutional principles relevant and encourages critical thinking.
- By embedding constitutional values across subjects and grade levels, students gain a holistic and cohesive understanding of these values, preparing them to be informed and responsible citizens.

2. **Teacher Training:** Effective teacher training is essential for the successful integration of constitutional values into education. Teachers play a pivotal role in not just imparting knowledge but also modelling the values they aim to teach. Professional development programs should focus on equipping educators with both the content knowledge and pedagogical skills needed to deliver lessons that incorporate constitutional principles.

- **Specialized Training Programs**: Teachers should undergo professional development programs that familiarize them with constitutional values and the best methods for teaching them. These programs should cover a wide range of approaches, including inquiry-based learning, critical thinking strategies, and discussions on ethical issues. Teachers should also be trained to handle sensitive topics like human rights, discrimination, and justice respectfully and inclusively.
- **Role Model for Students**: Teachers should be encouraged to embody the constitutional values they teach. For example, promoting a classroom environment based on fairness, respect, and equality can model democratic values for students. Teachers should demonstrate the application of these principles through their interactions with students, emphasizing the importance of active listening, mutual respect, and conflict resolution.
- **Encouraging Reflective Practices**: Teachers should be encouraged to reflect on their teaching practices and identify ways to improve their approach to teaching constitutional values. This could involve participating in regular discussions or peer reviews, where educators can share strategies, challenges, and successes in teaching these concepts.

Equipping teachers with the right tools and mindset to teach constitutional values ensures that these principles are communicated effectively and embedded in the school culture.

3. **Community Involvement:** The involvement of the broader community, like parents, local communities, civil society organizations, and even government bodies,can significantly enhance the teaching of constitutional values. Schools should recognize the importance of these external stakeholders in reinforcing the values of justice, equality, liberty, and fraternity.

- **Collaborative Initiatives**: Schools should partner with parents, community leaders, and civil society organizations to create programs that reinforce the teaching of constitutional values. These initiatives can include workshops, seminars, or community discussions about the importance of these values and how they can be applied in everyday life. For example, local leaders or experts on constitutional law can be invited to give talks or lead discussions with students.
- **Encouraging Civic Participation**: Schools can encourage students and their families to get involved in local governance or community service projects, further instilling the importance of active citizenship. Involvement in community initiatives allows students to practice constitutional values such as fraternity and equality, as they work together to solve problems or support social causes.
- **Strengthening Connections**: By fostering strong connections between schools and communities, students gain a deeper appreciation of how constitutional values play out in real life. When students see their communities actively engaging with these values, they are more likely to understand their importance and internalize them.

4. **Assessment Reforms:** Traditional assessment methods often prioritize academic achievement over moral and civic development. However, to ensure that students are internalizing and applying constitutional values, assessment systems need to evolve. By broadening the scope of assessment to include moral reasoning, community involvement, and critical engagement with constitutional principles, educators can provide a more comprehensive evaluation of student growth.

- **Holistic Assessment Approaches**: Instead of relying solely on exams and written tests, assessments should be diversified to include project-based evaluations, group discussions, and presentations on constitutional values. These methods allow students to demonstrate their understanding in a practical, real-world context. For instance, a project that involves researching a current social justice issue and proposing solutions can encourage students to apply their knowledge of justice, equality, and liberty.
- **Community and Civic Engagement**: Schools can incorporate assessments that focus on students' involvement in community service or civic activities. These can include projects where students work with local organizations to address societal issues, such as poverty, gender equality, or environmental sustainability. Such projects not only reinforce constitutional values but also allow students to put these principles into action.
- **Peer and Self-Assessment**: Incorporating peer reviews and self-reflection into assessments can help students develop a deeper understanding of their learning and the application of constitutional values. By evaluating each other's contributions in group projects or discussions, students can practice fairness and respect for differing perspectives, which are key aspects of democratic citizenship.

- **Feedback on Moral and Civic Growth**: Assessment systems should also include feedback on students' moral and civic development. This could involve providing constructive feedback on how well students have engaged with topics related to justice, equality, and liberty in their discussions or written assignments. By emphasizing moral reasoning and ethical decision-making, assessment reforms ensure that students are not only evaluated on academic knowledge but also on their development as responsible, engaged citizens.

## Conclusion

Integrating constitutional values into the curriculum is essential for nurturing informed, ethical, and active citizens. In democratic societies, fundamental principles such as justice, equality, liberty, and fraternity form the foundation of effective governance and social cohesion. A curriculum focused on these democratic ideals empowers students with the knowledge, skills, and values necessary for meaningful participation in shaping their communities and society as a whole.

When constitutional values are embedded in education, students gain a profound understanding of their rights and responsibilities. This empowers them to make informed choices, advocate for justice, and contribute to the common good. By instilling these principles early in education, we can cultivate individuals who are not only academically capable but also socially responsible and committed to sustaining democratic ideals.

Achieving this integration, however, requires a collective effort from policymakers, educators, and the community. Policymakers must prioritize constitutional values in national education policies, ensuring they are systematically incorporated into curricula at all educational levels. Educators must be well-equipped with the resources and expertise to teach these values effectively, fostering environments that encourage critical thinking, discussion, and active involvement. The wider community must reinforce these principles in daily life, supporting students as they apply constitutional values in their choices and interactions.

By aligning education with constitutional values, we can create responsible citizens who understand their societal role and are inspired to contribute positively to a better future. Incorporating these values into education is not just about academic success; it's about nurturing individuals who are ethical, engaged, and prepared to uphold democratic principles that foster a just, equal, and harmonious world.

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# Competency-Driven Learning: Aligning Competency-Based Education (CBE) and Competency-Based Assessment (CBA) for 21st-Century Skills

**Sapna Raj**[1]

**Abstract**

NEP 2020 and NCF-SE place a strong emphasis on competency-based education (CBE) and assessment (CBA), which move the emphasis from memorization to skill mastery. In order to improve conceptual comprehension, CBE integrates experiential, multidisciplinary, and learner-centric methods with storytelling-based education, the arts, and hands-on learning. Synchronizes evaluations with learning objectives, switching from summative tests to formative, adaptive techniques that measure problem-solving, critical thinking, and practical application. NEP 2020 promotes assessment '**as**,''**of**,' and '**for**' learning in order to guarantee ongoing assessment and individualized instruction. Curriculum realignment, teacher capacity building, and strong assessment frameworks are necessary for implementing CBA in CBE. By integrating Competency-Based Education (CBE) and Competency-Based Assessment (CBA) with NEP 2020 and NCFSE, this article examines the shift from traditional education to a competency-driven paradigm. It offers case studies and implementation techniques to support formative assessment, skill development, and experiential learning. Schools may foster 21st-century skills and provide inclusive, flexible, and future-ready instruction by incorporating CBA into their curricula.

***Keywords:*** *Competency-Based Education, Competency-Based Assessment, Experiential Learning, Learning Outcomes, 21st-Century Skills, Formative Assessment, Pedagogical Innovation, Student-Centric Learning*

## Introduction

**Brief overview of Competency-Based Education (CBE):** Mastery of certain skills and learning objectives is given priority in competency-based education (CBE), a student centred approach to teaching, learning, and evaluation. In contrast to conventional


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approaches that prioritize rote memorization, CBE ensures that students acquire the practical skills necessary for both academic and professional success by emphasizing the real world applications of information.

In order to promote deeper conceptual understanding and interdisciplinary connections, CBE places a strong focus on experiential learning by combining hands-on activities, the arts, sports, and story telling based teaching. In order to promote higherorder abilities like critical thinking, problem solving and analysis; link assessments with learning goals and move classroom transactions toward competency based learning.The National Education Policy (NEP) 2020 emphasizes the significance of this method. Ongoing professional development (CPD) is essential to maintaining and improving CBE's efficacy. To guarantee high-quality instruction, educators and educational leaders must participate in continual training and keep current with pedagogical developments. CBE personalizes education by emphasizing formative and adaptive evaluations, which makes learning more inclusive, interesting, and goal oriented. In a time when the world is changing quickly, CBE is a useful framework.

**The CBE approach's main characteristics are:**

- Equity for all students.
- Support that is tailored to each student's unique learning requirements
- Using formative evaluation, especially peer and self-assessment, where students are urged to consider their own work and pinpoint areas for growth.
- Progress is based on evidence of mastery rather than classroom time.

**What distinguishes competency-based education from conventional education?**

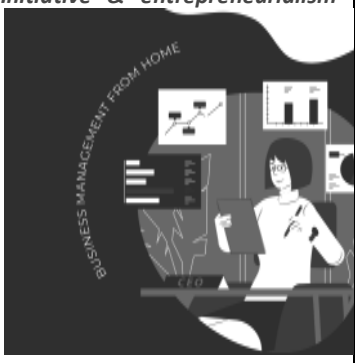
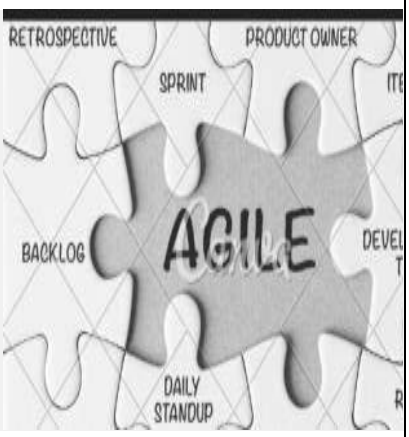
Let’s discuss three main differences:

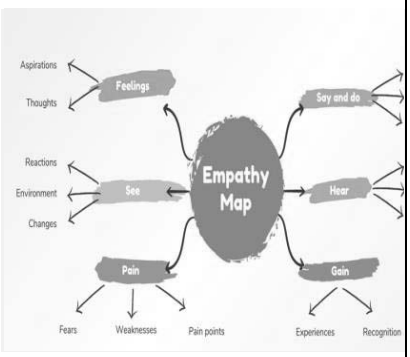
**Structure:** In conventional education, every student's academic year is prearranged, and regardless of their comprehension or level of skill mastery, they must advance by the conclusion of each unit. Students are grouped in classrooms based on their age rather than their unique learning requirements. Students advance in competency-based education according to their level of topic and skill proficiency, getting tailored help as required. Their academic progress, not their age, determines their advancement.

**Learning outcomes:** While competency-based learning emphasizes proving deep comprehension via application, traditional learning outcomes place more emphasis on memorizing and exam performance. This method develops critical abilities for lifetime learning.

**Grading:** Conventional grades are based on conduct, assignments, and test results. Personalized assessments are used in competency-based education to give parents and students clear, insightful information about their children's progress. Scores are determined by objective performance standards.

**Table 1:21st Century Skills and Attributes- Educator Self-Assessment**

| | | |
|---|---|---|
| ***Oral & written communication***  *Do you give students plenty of chances to write and talk in their own distinct, authentic voices?* *Do you assist students with focusing, energizing, and being passionate about the written and spoken messages they wish to make?* | ***Critical thinking problem-solving***   *Do you encourage and support doing things that have never been done before, where you and your students must think outside the box or come up with fresh ideas?* *Do you invite students to come up with and pose their own original, crucial questions?* | ***Collaboration across networks***   *Do you help your students collaborate and communicate globally?* *Do you allow students to work together both in person and virtually?* *Do you support your students in creating their own learning networks?* |
| ***Curiosity and imagination***   *Do you encourage, support, and encourage curiosity?* *Do you support your students in incorporating their own unique elements into their educational journeys?* | ***Initiative & entrepreneurialism***   *Do you help students engage in worthwhile projects?* *Do you give students the chance to take chances and rely on their own initiative?* | *Agility & adaptability*   *Do you accept changes as normal & natural and assist your learners in doing so, too?* *Are you and your learners flexible?* *Do you and your learners use a variety of tools to solve new problems?* |

| | | |
|---|---|---|
| ***Hope and Optimism***   | ***Self-Regulation***   | ***Empathy & Global stewardship***   |
| *Do you encourage, model, and teach good self-talk? I am capable of attitude.* | *Do you help students develop and comprehend their own metacognitive processes by modelling them?* | *Do you give students the chance to consider different viewpoints?* |
| *Do you assist learners in enhancing their personal agency thinking?* | *Do you assist students in becoming more self-motivated?* | *Do you help students comprehend how all life systems are interdependent?* |
| *Do you expose learners to stories that portray how others have succeeded or overcome adversity* | *Do you help students think back on and assess their educational experiences?* | *Do you provide students the chance to practice empathy and act in ways that are pro-social and meant to help others?* |
| ***Resilience***  | ***Grit***   | ***Vision for the Future***   |
| *Do you assist students in viewing failure as a chance for personal development?* | *Do you allow students to work on complicated, long-term projects?* | *Do you provide students with the time, tools, and chance to discover and follow their dreams?* |
| *Do you support and foster students' natural resilience?* | ▪ *Do you help students recognize and appreciate the benefits of enduring hardship?* | ▪ *Do you help students create the plans and tactics they need to realize their goals?* |

**Importance of Competency-Based Assessment (CBA) in Competency-Based Education (CBE)**

One essential element of competency-based education (CBE) is competency-based assessment (CBA). It is crucial to making sure that CBE's learning objectives are successfully fulfilled. The following are some main points emphasizing the role that CBA plays in CBE:

**1. Alignment with Learning Objectives**

**Precision in Measurement:** The purpose of CBA is to assess particular abilities that students should possess. This alignment guarantees that tests fairly represent whether or not students have acquired the required abilities and information. These abilities are frequently not fully measured by traditional tests.

**2. Personalized Learning**

**Individual Progress Tracking:** Continuous evaluation of student progress is made possible by CBA, which offers thorough feedback that can be utilized to adjust training to meet the requirements of each individual student. This customization facilitates individualized instruction and helps quickly close learning gaps.

**3. Focus on Mastery**

**Ensuring Competency Mastery:** CBA places more emphasis on competency mastery than standard assessments, which frequently concentrate on task performance within a predetermined duration. Only when they exhibit competency do students go on, guaranteeing a greater comprehension of the material.

**4. Real-World Relevance**

Knowledge Application: CBA places a strong emphasis on using abilities and information in practical situations. This method makes learning more relevant and meaningful by preparing students for real-world problems and improving their capacity to apply what they have learned in many circumstances.

**5. Improved Student Engagement**

**Active Learning:** By focusing on competencies, CBA encourages active learning and critical thinking. Students engage more deeply with the material as they work to demonstrate their understanding and skills, leading to increased motivation and interest in learning.

**6. Continuous Feedback and Improvement**

**Formative Assessments:** Formative assessments, which give pupils ongoing feedback, are incorporated into CBA. This constant evaluation promotes a growth attitude and lifelong learning by assisting students in understanding their strengths and areas for development.

**7. Equity and Inclusion**

**Customized Learning Paths**: By acknowledging that kids learn differently and at varying rates, CBA promotes equity. CBA promotes inclusion by accommodating a range of learning demands and styles by letting students demonstrate their abilities in different ways.

**8. Accountability and Transparency**

**Clear Expectations:** CBA lays out precise, open standards for teachers and students. Because competencies are clearly stated, it is simpler to explain expectations and hold all parties involved responsible for the learning outcomes of students.

A key component of competency-based education's effectiveness is competency-based assessment. CBA guarantees that educational goals are achieved efficiently and fairly by emphasizing the acquisition of certain skills and information, offering individualized and ongoing feedback, and preparing students for real-world applications. This method not only improves learning results and student engagement, but it also brings education into line with 21st-century needs.

**II. Understanding Competency-Based Assessment (CBA)**

**Definition and role of CBA in education:** CBA is a method for assessing a person's knowledge, skills, and abilities in relation to certain work criteria or competencies. Instead of concentrating just on theoretical knowledge or training time, this approach considers whether the person can exhibit the competences needed for a certain job or activity.

**Key Characteristics of Competency-Based Assessment:**

**1. Focus on Outcomes:** Places a strong emphasis on competency demonstration, guaranteeing that students can use their knowledge and abilities in practical situations.

**2. Personalized Learning:** Enables students to advance at their own speed after proving they have mastered particular abilities.

**3. Practical Application:** Include real-world activities that mirror employment needs, projects, and simulations as well as other performance-based, practical evaluations.

**4. Clear Standards:** Lays fourth precise, quantifiable standards for every competence, making it clear what is expected of students.

**5. Continuous Feedback:** Gives students continuous feedback to help them recognize their strengths and areas for development.

| Key Components of CBA | | | |
|---|---|---|---|
| Identification of Competencies | Development of Learning Outcomes and Performance Criteria (LOs&PCs) | Designing Assessment Standards, Strategy & Tools | Independent, Fair & Reliable Assessments & Tech Supported Governance |

**Assessment Types for Competency Based Assessment**

1. **Diagnostic Assessment:** It assesses a person's knowledge and skill in a certain field. These are preliminary tests designed to ascertain the candidate's present comprehension level of the subject.
2. **Formative Assessments:** Formative assessments, which are found on ongoing learning, are a way to assess candidates' performance and growth at the same time.
3. **Summative Assessments:** At the end of a unit of instruction, summative exams are used to evaluate student comprehension to a standard or benchmark. Summative assessments include senior recitals, papers, final projects, and midterm exams.
4. **Ipsative Assessments**: It assesses an individual by contrasting them with themselves instead than with others, forcing them to make choices without a similar context, and highlighting their strengths and weaknesses.
5. **Norm-referenced Assessments**: To determine how test takers compare to the average student, compare their performance to a statistically selected sample.
6. **Criterion-referenced**: It assesses performance considering predetermined learning criteria or benchmarks.
7. **Peer-to-peerrandomized Assessments:** Allow students to evaluate and comment on one another, encouraging self-improvement and lifetime assessment while boosting learning through incentive and knowledge sharing.
8. **Industry Validated Assessments:** The skills acquired via vocational training are directly assessed by employers, guaranteeing that the program is applicable and an effective method of outcome-based evaluation.
9. **AI-based Assessments:** To provide fair evaluations free from human bias, give instructors and supervisors regular feedback on applicants' learning progress, needs, and assistance requirements.
10. **Self-Assessments:** Provide candidates with the resources they need to use established criteria to evaluate their own learning outcomes and procedures. This will encourage meaningful interactions with instructors and candid comments on their areas of strength and improvement.
11. **Recognition of Prior Learning** (**RPL**): Determines the competencies and skills that learners now possess by comparing previous formal, informal, and non-formal learning to approved qualifying requirements.
12. **Game-based Assessments**are fun pre-employment tests designed to evaluate applicants' skills quickly, much like games. They give talent acquisition teams a scalable and efficient solution by concentrating on Gen Z preferences and mobile technology.

**Assessment Methodology for Competency Based Assessment**

| Assessment Methodology Steps for CBA |
|---|
| 1. **Identify competencies:** Clearly define the competencies or learning outcomes to be assessed for theoretical knowledge and practicals kills. |
| 2. **Establish Assessment Criteria:** Give each assessment technique explicit criteria for judging performance. |
| 3. **Pick Assessment Techniques:** Depending on the characteristics of the skills, pick suitable assessment techniques. |
| 4. **Assure Authenticity:** Put policies in place to guarantee the integrity and authenticity of tests. |
| 5. **Give Directions:** Make sure candidates understand the expectations and directions for the evaluation. |
| 6. **Blend Assessments:** Utilize both online and offline platforms for both theoretical and practical exams to develop a blended approach by integrating various assessment |
| 7. **Feed back and Reporting:** Provide constructive feedback to learners and generate comprehensive assessment reports. |
| 8. **Continuous Improvement:** Evaluate and improve the evaluation process on a regular basis in light of input and outcomes. |

## III. Integrating CBA into the CBE Model

Seamless Integration of Assessments into the Learning Process: Benefits of Integrating Competency-Based Assessment in Competency-Based Education

**Alignment with Learning Outcomes:** The seamless integration of Competency-Based Assessment (CBA) within Competency-Based Education (CBE) ensures that assessments are directly aligned with defined learning outcomes. This alignment promotes relevance and focus, as both teaching and assessment activities are centered around the competencies that students need to master. By embedding assessments into the learning process, educators can consistently monitor students' progress towards these competencies, ensuring that the learning activities are meaningful and goal-oriented. This approach helps to maintain a clear and consistent focus on the skills and knowledge that are most pertinent to the students' future careers and academic success.

**Continuous Improvement:** One of the key benefits of integrating CBA in CBE is the promotion of continuous improvement through regular feedback. Seamless assessment integration allows for ongoing evaluation of student performance, providing timely and constructive feedback that helps students identify their strengths and areas needing

improvement. This continuous feedback loop fosters a growth mindset and encourages lifelong learning, as students are motivated to keep improving and refining their skills. Regular assessments also enable educators to quickly identify and address any learning gaps, adapting their instructional methods to better support each student's unique learning journey.

**Real-World Relevance:** Integrating CBA into the CBE framework ensures that assessments are not only reflective of academic knowledge but also relevant to real-world applications. This practical orientation prepares students for the challenges they will face in their professional lives by emphasizing the development and demonstration of applicable skills. Assessments that mirror real-world tasks and scenarios help students to better understand the practical implications of their learning, making the educational experience more engaging and meaningful. This real-world relevance is crucial in equipping students with the competencies they need to succeed in their chosen fields, bridging the gap between education and employment.The seamless integration of Competency-Based Assessment into Competency-Based Education provides significant benefits by aligning assessments with learning outcomes, fostering continuous improvement through regular feedback, and ensuring that learning remains relevant to real-world challenges. These advantages contribute to a more effective and impactful educational experience, preparing students for lifelong success.

**IV. Practical Steps for Implementing CBA in CBE**

**1. Developing Authentic Assessments**

- ✓ **Collaboration with Educators and Industry Professionals**

  **Explanation:**Engage educators and industry experts in the design process to ensure assessments reflect current industry standards and practices.

  **Example:** A nursing program collaborates with hospital administrators and practicing nurses to develop simulation assessments that mirror real-life medical emergencies.

- ✓ **Creating Meaningful and Relevant Assessment Tasks**

  **Explanation:** Design assessment tasks that require students to apply their knowledge and skills in practical, real-world contexts.

  **Example:** In a marketing course, students create and present a comprehensive marketing campaign for a local business, incorporating research, strategy, and creative elements.

**2. Ensuring Consistency and Fairness in Assessments**

- ✓ **Establishing Clear Rubrics**

**Explanation:** Develop detailed rubrics that outline specific criteria and performance standards for each competency.

**Example:** An engineering course uses a rubric with defined criteria for evaluating student projects, such as design accuracy, innovation, and adherence to safety standards.

✓ Training Educators for Consistent Application

**Explanation:** Provide professional development to ensure educators apply rubrics and assessment criteria consistently.

**Example:** A university conducts calibration sessions where professors assess sample essays together to align their grading standards and interpretations.

**4. Providing Timely Feedback**

✓ **Utilizing Technology to Manage Feedback Workload**

**Explanation:** Use digital tools to streamline the feedback process, making it more efficient and manageable for educators.

**Example:** An online learning platform allows professors to provide annotated feedback directly on student submissions and track progress over time.

✓ **Professional Development for Educators on Feedback Techniques**

**Explanation:** Train educators in effective feedback methods to enhance student learning and motivation.

**Example:** Teachers attend workshops on delivering constructive feedback, focusing on balancing positive comments with areas for improvement and using video feedback to give more personalized responses.

**V. Challenges and Solutions in Implementing CBA**

Learner-centered design (CBE) offers pupils individualized and adaptable learning experiences. Students advance through their education based on their demonstrated mastery of predefined competencies rather than a strict, one-size-fits-all curriculum. These competencies are precise, quantifiable learning objectives that outline the particular skills, information, and abilities that students should be able to gain. Making ensuring students have the information, skills, and abilities needed to succeed in their chosen fields or professions is the main objective of competency-based education.

**Eight Core Issues in Implementing Competency Based Education at School Level**

1. **Competency Definition and Alignment:** Aligning skills with industry standards and workforce requirements is a crucial difficulty in competency-based education (CBE). Accurately identifying competencies is one of these challenges. Working together with businesses and subject matter experts is necessary to make sure that the competences that have been defined remain current and applicable.
2. **Assessment Design and Standardization:** Assessment Design and Standardization: We think it might be challenging to create valid and trustworthy tests that gauge students' competency mastery. It seems sense that creating tests that fairly

represent how knowledge and abilities are applied in the actual world is essential. To maintain uniformity and fairness, it is crucial to standardize evaluation criteria and methodologies throughout various instructors and courses.

3. **Personalized Learning Paths:** Teachers have discovered that creating personalized learning plans for each student can be difficult, particularly in bigger classrooms or educational settings. We must figure out how to manage the various learning demands of our children and make sure they all advance as they should, all the while offering individualized guidance and assistance. We believe that striking a balance between individualization and overall curricular coherence is important to take into account while thinking about CBE.
4. **Student Engagement and Motivation:** Students must assume greater responsibility for their education as part of CBE, although some may find it difficult to be motivated and self-directed, particularly when given more freedom and flexibility. In order to maintain students' motivation and engagement throughout their learning process, teachers must have tactics.
5. **Teacher Training and Support:** Making the switch to CBE sometimes necessitates considerable adjustments to teaching strategies. To create competency-based assessments, support students' customized learning, and comprehend the tenets of competency-based education, teachers require professional development and training. Educational leadership should be aware that exchanging best practices and addressing obstacles requires constant assistance from peers.
6. **Technology Integration:** Technology is essential to CBE because it offers platforms for individualized learning, tools for assessments, and data management systems. Nevertheless, for implementation to be effective, concerns such guaranteeing adequate access to technology and resolving technical difficulties may need to be addressed.
7. **Credentialing and Transcripts:** Everyone will agree that the mastery-based approach of CBE may not mesh well with standard grading schemes. When we consider competency-based education (CBE), we think it can be difficult to set up procedures for recording and identifying students' capabilities, including producing competency-based transcripts or alternative credentials. Employers, universities, and other stakeholders must find these methods universally acceptable and simply understandable.
8. **Scaling and Sustainability:** We think that careful planning and resource allocation are necessary for adopting CBE on a wider scale, namely at the system level. The provision of sufficient support, professional development opportunities, and continuous assessment is crucial for educational leadership to guarantee the sustainability and scalability of CBE efforts.

## VI. Case Studies and Examples

### Real-world examples of successful CBA implementation

### 1. Finland's Education System

Finland's education system is renowned for its emphasis on personalized learning and competency-based assessment (CBA). The country's national curriculum encourages schools to adopt flexible and student-centered approaches**.**

**Implementation:**

- **Integration with Curriculum:** Finnish schools integrate CBA with their national curriculum, focusing on developing key competencies such as critical thinking, collaboration, and self-management.
- **Teacher Training:** Extensive professional development programs help teachers design and implement CBA effectively.
- **Student Portfolios:** Students maintain portfolios that showcase their learning progress and competencies over time.

**Lessons Learned:**

- **Holistic Approach:** A holistic approach that considers students' emotional and social development, in addition to academic skills, enhances learning outcomes.
- **Flexibility:** Flexibility in teaching methods and assessment allows for better accommodation of individual student needs.

**Best Practices:**

- **Collaborative Learning:** Encourage group projects and peer assessments to foster collaborative skills.
- **Continuous Feedback:** Provide ongoing feedback rather than relying solely on summative assessments.

### 2. New Zealand's National Certificate of Educational Achievement (NCEA)

New Zealand’s NCEA is a comprehensive CBA system that allows students to earn credits towards their high school diploma through various assessments, including projects, exams, and practical tasks.

**Implementation:**

- Multiple Pathways: Students can choose different pathways and subjects based on their interests and strengths.
- Standards-Based Assessment: Each subject is broken down into specific standards, and students earn credits by demonstrating competency in these areas.

**Lessons Learned:**

- Student Engagement: Allowing students to choose their learning pathways increases engagement and motivation.
- Diverse Assessment Methods: Using a variety of assessment methods caters to different learning styles and provides a more comprehensive evaluation of student competencies.

**Best Practices:**

- Personalized Learning Plans: Develop personalized learning plans that align with students' goals and aspirations.
- Integrated Assessments: Integrate assessments into regular learning activities rather than treating them as separate events.

**3. United States – Western Governors University (WGU)**

Western Governors University is a pioneer in CBA in higher education, offering competency-based degrees where progress is based on mastery of subjects rather than time spent in class.

**Implementation:**

Online Learning Platform: WGU uses an online platform to deliver course materials and assessments.

Competency Units: Courses are divided into competency units, and students must demonstrate mastery through various assessments, including exams, projects, and presentations.

**Lessons Learned:**

**Flexibility and Accessibility:** Online, competency-based programs provide flexibility for working adults and non-traditional students.

**Outcome-Focused:** Emphasizing outcomes ensures that graduates have the skills and knowledge needed for their professions.

**Best Practices:**

**Mentorship**: Assist students in their learning process by assigning them mentors who can provide assistance and direction.

**Real-World Assessments:** Create tests that accurately depict tasks and difficulties encountered in the actual world to guarantee that skills are used practically.

**4. Singapore's Primary Education Review and Implementation (PERI)**

Through CBA in elementary schools, Singapore's PERI project aims on developing 21st-century competences and comprehensive education.

**Implementation:**

- **Holistic Development:** Integrates extracurricular activities like character education, physical education, and the arts into the evaluation system.
- **Formative Assessments:** Makes use formative evaluations to provide students with feedback and aid in their development.
- **Lessons Learned:**
- Balanced Curriculum: Well-rounded growth is promoted by a balanced curriculum that incorporates both academic and extracurricular activities.
- Parental Involvement: Including parents in the evaluation procedure improves the learning assistance provided to pupils.

**Best Practices:**

- Reflective Practices: Encourage pupils to think about what they've learned and plan how to improve.
- Collaborative assessments involve instructors, parents, and classmates in order to provide a comprehensive evaluation of kids' abilities.

**5. India's National Education Policy (NEP) 2020**

CBA is emphasized in India's NEP 2020 as a crucial element of educational reform, with the goal of moving away from memorization and toward critical thinking and holistic development.

**Implementation:**

- Curriculum Revision: The curriculum is being revised to incorporate interdisciplinary and project-based learning.
- Teacher Training: Professional development programs are being introduced to help teachers implement CBA effectively.

**Lessons Learned:**

- **Incremental Changes:** Teachers and pupils can better adjust when CBA is implemented gradually.
- **Focus on Skills:** Emphasizing skills over content knowledge helps in developing critical thinking and problem-solving abilities.

**Best Practices:**

- **Interactive Learning:** Use interactive and experiential learning methods to engage students.
- **Continuous Assessment**: Implement continuous assessment methods to track student progress and provide timely interventions.

The potential of CBA to improve learning outcomes and get students ready for new challenges is demonstrated by its effective application in a variety of educational environments. Educational institutions may successfully integrate CBA to support equity, participation, and excellence in education by taking note of these case studies and implementing best practices.

**Road Map for Enabling Assessment from Teaching and Examination and Competency-Based Learning**

- Converting the course curriculum to a competency-based framework with comprehensive learning outcomes and PCs
- Building the capacity of institutions, teachers, trainers, examiners, assessors, and students (training of teachers, trainers, and assessors)
- Developing learning materials, teaching/training pedagogies, and other instruments for delivering outcome-based learning
- Capacity Building of Institutions, Teachers/Trainers, Examiners, Assessors & learners (Training of Teachers/Trainers &Assessors)
- Developing a new assessment culture based on competencies with an emphasis on formative and adaptive assessments as required by NEP.
- Creating shared norms, standards, and guidelines for assessment and evaluation by the relevant Agencies
- Creation of assessment criteria, methods, tools, and related question banks based on course curriculum and skills that are outcome-based
- Creation of Technology and Digital Infrastructure to Support Competency-Based Assessments and Facilitate IT-Based Student Monitoring

**Conclusion**

The development of an educational system that prioritizes mastery of certain skills and knowledge depends on the effective integration of Competency-Based Assessment (CBA) into Competency-Based Education (CBE). By ensuring that evaluations are in line with established learning objectives, CBA promotes ongoing development through frequent feedback and keeps education applicable to real-world situations. By encouraging a learnercentred atmosphere where students advance at their own speed, this method increases student engagement and gets them ready for difficulties in the workplace. Educational institutions may provide individualized learning experiences that meet the requirements of a wide range of students and promote lifelong learning by incorporating CBA into the CBE framework.

Notwithstanding its many advantages, putting CBA into practice presents difficulties, including determining skills, creating efficient tests, and guaranteeing teacher preparation. In order to address these issues and build a supporting environment, educators, business leaders, and legislators must work together. Studying successful

case studies, like those from the US, Finland, and New Zealand, might yield insightful information on best practices. In the end, incorporating CBA into CBE signifies a revolutionary change toward a successful and equitable educational model that equips students for success in the future.

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# From Rote Learning to Critical Thinking: How NEP 2020 Aims to Reshape Pedagogy – A Review

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**Abstract**

*The National Education Policy (NEP) 2020 is a transformative document aimed at reshaping India's education system, with a key focus on moving away from rote learning to promoting critical thinking, creativity, and problem-solving skills. This review paper critically evaluates the shift in pedagogical strategies outlined in the NEP 2020, examining its core components, implications for teaching practices, and how it envisions the development of a more holistic and learner-centric education system. The paper synthesizes the existing literature on the policy, its objectives, and its potential to foster critical thinking among students.*

***Keywords:*** *National Education Policy (NEP) 2020, Rote Learning, Creativity, Pedagogical Reforms, Experiential Learning, Holistic Development, Learner-Centric Approach.*

## Introduction

The traditional education system in India was usually based on rote learning, where students would memorize information primarily for the purpose of examination, often without an understanding of its practical applications or deeper concepts. This approach has long been criticized for failing to equip students with essential skills such as critical thinking, problem-solving, and creativity— skills that are indispensable in today's knowledge-driven world.

Significantly, most of the education commission including National Education Policy (NEP) 2020, have recommended for overhaling the education system by emphasizing promoting, creativity, critical thinking and independent learning. Noteworthy part is that NEP, 2020 promotes a shift from rote memorization towards a learning process that encourages analytical skills, intellectual curiosity, and practical engagement with knowledge. This review paper examines how NEP 2020 intends to reshape pedagogy and align it with the evolving demands of the 21st century.

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**Objectives:**

1. To trace the historical development of India's education system and the dominance of rote learning.
2. To explore the specific provisions of the NEP 2020 that encourage a shift from rote memorization to critical thinking

***Evolution of Education in India: A Historical Perspective***

Historically, India's education system has been rooted in traditional models of instruction, where knowledge transmission was teacher-centric, and learning outcomes were largely measured by rote memorization. The advent of globalization and technological advancement has created a need for an education system that nurtures creativity, critical thinking, and adaptability.

The NEP 2020, therefore, marks a significant departure from the conventional educational philosophy. It acknowledges the limitations of the previous system and proposes a new vision for education that empowers students to think independently, solve real-world problems, and engage with complex, interdisciplinary subjects. A key challenge lies in moving from entrenched systems of rote learning to pedagogies that foster critical inquiry and reflection.

***Core Features of NEP 2020 for Promoting Critical Thinking***

1. **Curricular and Pedagogical Reforms:** NEP 2020 calls for the introduction of flexible and multidisciplinary curricula, which encourage students to explore subjects beyond traditional boundaries and build connections between different domains of knowledge. The policy emphasizes the importance of a reduction in content-heavy syllabi, shifting the focus to learning outcomes that prioritize understanding over memorization. A key feature of the curriculum is the promotion of inquiry-based learning, where students are encouraged to ask questions, engage in research, and apply theoretical knowledge to practical situations.
2. **Shifting Focus to Conceptual Understanding:** One of the major shifts advocated by NEP 2020 is the emphasis on understanding concepts rather than rote memorization. The policy underscores the need for teaching strategies that promote deeper cognitive engagement with content. By fostering a learning environment that prioritizes comprehension and critical thinking, the policy aims to help students grasp the underlying principles behind the subjects they study. This approach challenges the conventional model of exam-oriented education and advocates for learning that emphasizes analysis, evaluation and creative problem-solving.
3. **Assessment Reforms: A Shift from Summative to Formative Assessment** The NEP 2020 proposes a reorientation of the assessment system to focus on continuous, formative assessment rather than high-stakes summative exams. This shift is designed to encourage critical thinking by assessing a student's ability to

apply knowledge in diverse contexts and solve problems creatively. By moving away from rote memorization, the assessment system under NEP 2020 would include a combination of projects, assignments, presentations, and group discussions that assess students' analytical and problem-solving abilities.

4. **Teacher Development and Pedagogical Training:** Effective implementation of NEP 2020 requires a significant change in the way teachers are trained and supported. The policy stresses the need for professional development programs that equip educators with skills to foster critical thinking and problem-solving in their classrooms. Teachers will be trained to use student-centered pedagogies, including project-based learning, collaborative learning, and case-based teaching. Such methods are designed to cultivate a learning environment where students actively participate in the knowledge construction process.
5. **Integration of Technology in Education:** Another key element of NEP 2020 is the integration of technology to enhance learning experiences. Digital tools and online resources are expected to play a major role in facilitating research, self-directed learning, and collaborative learning. The policy envisions the use of technology to foster critical thinking by providing students with access to a wide array of resources and learning platforms that encourage independent exploration and analysis.
6. **Promoting Holistic Development:** NEP 2020 seeks to move beyond traditional academic learning to ensure that students develop holistically, acquiring not only cognitive skills but also emotional, social, and physical abilities. The policy advocates for a balanced curriculum that includes arts, sports, and life skills, all of which contribute to a well rounded educational experience. This approach aligns with the goal of nurturing students who are capable of critical thinking and responsible citizenship in a rapidly evolving world.

**Pedagogical Implications: A Critical Review**

While NEP 2020 presents a promising framework for transforming India's education system, the practical implementation of its ideas poses significant challenges. Transitioning from rote learning to critical thinking requires deep changes not only in the curriculum and assessment systems but also in the mindset of both educators and students. Teachers must shift from traditional methods of delivering content to becoming facilitators of active learning. This requires extensive professional development and the creation of support systems that can help teachers adapt to new pedagogical paradigms. Furthermore, the policy's focus on interdisciplinary learning and conceptual understanding requires educational institutions to develop flexible curricular structures that break away from rigid discipline-based silos. For students, this may require new learning strategies that promote self-reflection, inquiry, and critical engagement with materials.

Another critical aspect is the availability of resources and infrastructure to support these changes. The effective use of technology, as envisioned in the policy, demands that

schools and colleges have access to digital tools, internet connectivity, and training for both teachers and students. Ensuring equitable access to these resources, particularly in rural and underserved regions, will be vital for the success of NEP 2020.

**Discussion:**

The National Education Policy (NEP) 2020 seeks to revolutionize India's educational framework by addressing the long-standing issue of rote learning, which has been a hallmark of the Indian education system. The policy emphasizes a paradigm shift towards critical thinking, creativity, and problem-solving skills—abilities essential for the future success of students in an increasingly complex and interconnected world. This discussion section delves into the strengths, challenges, and implications of the NEP 2020 as it aims to reshape pedagogy in India.

***1. The Shift from Rote Learning to Critical Thinking***

One of the most significant aspects of NEP 2020 is its rejection of rote learning as the central pedagogical approach. The policy explicitly calls for a curriculum that emphasizes deeper conceptual understanding, critical inquiry, and the development of higher-order cognitive skills. It acknowledges the limitations of the traditional education system, where students were primarily trained to memorize facts and reproduce them in exams. Such an approach often stifled creativity, independent thought, and the development of analytical abilities.

By moving towards inquiry-based learning and problem-solving approaches, NEP 2020 envisions an education system that encourages students to question, explore, and critically engage with the material. This shift is not merely theoretical but is embedded within the curriculum reforms, which advocate for interdisciplinary learning, project-based activities, and real-world applications of knowledge. The policy envisions a system where students not only acquire knowledge but also develop the skills necessary to apply that knowledge in novel situations, thus fostering creativity and critical thinking.

This emphasis on critical thinking aligns with global educational trends, where many countries have moved beyond rote learning and embraced pedagogies that prioritize conceptual understanding, intellectual curiosity, and the development of lifelong learning skills. The NEP 2020's emphasis on critical thinking is a much-needed departure from the past, where memorization often trumped comprehension.

***2. Curricular and Pedagogical Changes***

A significant aspect of NEP 2020 is its call for curricular reforms that focus on reducing content overload and promoting flexibility. The policy suggests that curriculums should be restructured to allow students to explore interdisciplinary subjects and engage in more practical learning experiences. Such an approach is expected to stimulate intellectual curiosity and foster a love for learning, rather than simply focusing on passing exams.

However, while the policy advocates for the reduction of content, the extent to which this can be achieved still remains an area of concern. Many schools in India, especially in rural and underprivileged areas, still follow rigid, examination-centric curricula. The challenge lies in translating these broad policy goals into tangible changes at the classroom level. For these reforms to be effective, teachers need to be adequately trained to implement these innovative teaching methodologies. Teachers must be equipped with the skills to facilitate inquiry-based learning, encourage critical thinking, and design assessments that go beyond rote memorization.

Moreover, the success of curricular reforms will depend on the level of flexibility that schools and educational institutions are able to incorporate into their teaching practices. Educational institutions must evolve from traditional content-heavy syllabi to more fluid, student-centric learning experiences. This shift requires both structural and cultural changes within schools and universities.

***3. Teacher Training and Development***

NEP 2020 places a strong emphasis on improving teacher quality through continuous professional development. It recognizes that for any pedagogical shift to succeed, teachers must be central to the process. The policy suggests that teachers be trained to use innovative teaching strategies such as project-based learning, collaborative learning, and experiential learning, which emphasize critical thinking. Furthermore, the NEP highlights the importance of nurturing teachers' critical thinking and problem-solving abilities to model these behaviors for students.

However, teacher training and professional development remain critical challenges in India. Despite the policy's emphasis, the reality is that many teachers still follow traditional, lecture based teaching methods and may not be equipped to foster critical thinking in students. Teachers, particularly in rural areas, often face challenges such as a lack of resources, large class sizes, and limited access to continuous professional development. Overcoming these challenges requires substantial investment in teacher training programs, resources, and support mechanisms to ensure that educators are prepared to facilitate the shift towards critical thinking.

Moreover, it is important to recognize that fostering critical thinking is not a one-time effort but an ongoing process. Teachers must be given the autonomy to experiment with different pedagogical approaches and receive feedback to improve their practices continuously.

***4. Assessment Reforms: Moving Beyond Traditional Exams***

One of the most notable reforms in NEP 2020 is its shift from high-stakes, summative assessments towards more formative and holistic methods of evaluation. The policy envisions a system where assessments are designed to evaluate not just factual knowledge but also creativity, problem solving, and the ability to think critically. These reforms, including the introduction of project based assessments, presentations, and

collaborative tasks, aim to better reflect students' overall development and learning progress.

However, a significant challenge lies in the implementation of these new assessment methods. The existing examination system in India is entrenched in the culture, and any attempt to shift away from it faces resistance from multiple stakeholders, including parents, students, and even some educators. The shift towards formative assessments requires substantial changes in both the mindset of educational institutions and the resources available to teachers to design and assess students' performance in the desired manner.

Moreover, there is a need to address the infrastructure and logistical challenges associated with these assessments, such as large class sizes, limited resources, and the lack of standardized criteria for project-based evaluations. For formative assessments to succeed, the education system will need to develop robust mechanisms for teacher training, curriculum integration, and the creation of equitable opportunities for all students.

### *5. The Role of Technology in Promoting Critical Thinking*

NEP 2020 recognizes the role of technology in facilitating learning and critical thinking. By integrating digital tools, platforms, and resources, the policy envisions a learning environment where students can access a wide range of information, engage in interactive learning experiences, and develop digital literacy skills. The use of technology can help break down traditional barriers to education, such as geographical constraints and resource limitations, thereby providing a more inclusive and equitable learning environment.

However, the successful implementation of technology-based learning strategies requires significant investment in infrastructure, teacher training, and the provision of digital devices and internet connectivity. This is particularly challenging in rural areas, where access to technology remains limited. Additionally, while technology has the potential to promote critical thinking, it is crucial to ensure that digital tools are used in ways that encourage active engagement and inquiry, rather than reinforcing passive consumption of information.

### *6. Challenges and Opportunities*

The potential of NEP 2020 to reshape pedagogy is immense, but its success depends on overcoming several challenges. First and foremost, there is the challenge of ensuring uniformity in the implementation of the policy across diverse regions, especially in rural and underserved areas. Educational institutions in different parts of India are at varying stages of readiness to adopt these reforms, and this disparity may hinder the overall impact of NEP 2020.

Furthermore, while the policy promotes innovation in teaching and learning, there is a need for a cultural shift within educational institutions. Teachers, students, and parents must embrace the idea that learning is not merely about memorization for exams but

about developing the skills necessary to succeed in a complex and rapidly changing world. This cultural shift requires sustained efforts from the government, educational leaders, and local communities.

**Conclusion**

The National Education Policy (NEP) 2020 represents a transformative vision for India's educational system, with a clear emphasis on moving away from rote learning and fostering critical thinking among students. By promoting a curriculum focused on conceptual understanding, flexible learning pathways, and continuous assessment, NEP 2020 seeks to develop a generation of students equipped with the skills needed to navigate the complexities of the modern world. While the policy offers a promising blueprint for reform, its success hinges on effective implementation, teacher training, and the creation of a supportive learning environment. As India works to reshape its pedagogy, it is essential that all stakeholders—government, educators, students, and parents—collaborate to realize the goals set forth in NEP 2020. If executed well, NEP 2020 has the potential to create a more dynamic, engaging, and forward-thinking education system that prepares students to think critically and creatively in an increasingly interconnected and rapidly changing global landscape.

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# Equipping Teachers with Digital Literacy and Pedagogical Skills

**Indu Dahiya**[1]

**Abstract**

*To enhance teaching effectiveness and student learning outcomes in the rapidly changing educational landscape, teachers should be equipped withdigital literacy and pedagogical skills. The importance of digital literacy for educators is discussed in this article, with the emphasis on their capacity to effectively use, assess, and incorporate digital resources into the classroom. Beyond usage of technology, digital literacy includes critical thinking, using technology ethically, and being able to adjust to new technologies.*

*Additionally, incorporating technology into pedagogy improves methods of instruction, encourages student participation, and makes customized learning easier. Teachers may establish more dynamic and inclusive learning environments by utilizing digital technologies like learning management systems, interactive simulations, and platforms powered by artificial intelligence.With its advantages, there are still a lot of obstacles to overcome when implementing pedagogical innovations and digital literacy.*

***Key words***: *Digital Literacy, Pedagogical Skill, Artificial Intelligence,Pedagogical Innovation*

## 1. Introduction

In an era of rapid technological advancement, the role of educators extends far beyond traditional teaching methods. Classrooms are evolving into vibrant learning environments where students engage creatively with content. All this is possible with the integration of digital tools in education. However, this transformation can only take place if teachers have the necessary pedagogical and digital literacy skills. To effectively leverage technology for enhancing learning outcomes and fostering students' 21st-century skills, it is crucial to understand digital literacy. This term refers to the ability to access, evaluate, create, and share information using digital tools and platforms, making it a vital skill for both educators and students in today's interconnected world. For teachers, digital literacy encompasses:

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- **Technical Proficiency**: Teacher'sability to use software applications and navigate devices such as computers, tablets, and interactive whiteboards
- **Information Management**: Teacher knows how to locate, assess, and utilize online resources wisely.
- **Online Communication**: Collaborating with parents, students, and colleagues through digital channels.
- **Safety and Ethics**: Promoting responsible online behaviour, including awareness of cyber security and ethical use of digital resources. Educators who are digitally literate are better prepared to integrate technology into their teaching methods, making learning more engaging and accessible for all students.

**2. Understanding Digital Literacy for Teachers**

Digital literacy encompasses the ability to use digital tools, technologies, and resources effectively, ethically, and responsibly. In the realm of education, it allows teachers to seamlessly integrate technology into their teaching methods, thereby improving learning outcomes and boosting student engagement. Educators with strong digital literacy skills can create engaging lessons, oversee online classrooms, assess student performance data, and ensure a safe digital learning environment.

In today's world, digital literacy is not just a benefit but a necessity for teachers. It enables them to facilitate blended and online learning experiences, access a diverse collection of educational resources, and communicate effectively with students, parents, and colleagues through digital platforms. It helps them adapt to the ever-evolving technological trends in education and promotes digital citizenship and responsible technology use among students. This article aims to raise awareness about various digital tools that can assist teachers during their lectures and classroom instruction. There are several key digital skills that teachers need to develop.

**2.1 Using Educational Technology Tools:**

Educational technology (EdTech) tools play a crucial role in enhancing the teaching and learning experience by offering innovative methods to deliver content and engage students. Some key tools are:

- **Google Classroom**– This platform allows teachers to manage assignments, grading, and communication effectively. It helps educators to organize lessons, share resources, and interact with students seamlessly. Educators can use Google Classroom to upload lecture notes, quizzes, and video demonstrations. Through it, teachers enable students to access learning materials anytime, and promote self-paced learning.
- **Microsoft Teams** –It is another valuable tool for virtual classes, collaboration, and student engagement. Teachers can use Microsoft Teams for taking live classes, document sharing, live discussions, and video conferencing.

- **Zoom** – A popular video conferencing tool for virtual classrooms, Zoom facilitates screen sharing, breakout rooms, and real-time interaction. It makes easier for teachers to connect with students
- **LMS Platforms** (Moodle, Blackboard, Edmodo) – These systems assist in managing course materials, tracking student progress, and facilitating online discussions.

### 2.2 Creating and Managing Digital Content

Teachers must be able to design, organize, and distribute digital learning materials effectively. There are some tools which help teachers to present their content by interactive presentation. For examplesCanva, Prezi, Kahoot and Quizizz

- **Canva** - Canva is a user-friendly graphic design tool that creates engaging lesson plans, slides, info graphics, and posters. Canva promotes students' creativity and enhances classroom presentation.
- **Prezi -**Prezi is a dynamic presentation software that allows students to visually display, expand, and transform their knowledge. With the help of Prezi, students can practice their linguistic expression and effectively organize their thoughts
- **Kahoot** - Teachers can use Kahoot for assessing student's knowledge. Teachers can use a free version to create multiple-choice quizzes, add images, and view analytics. Kahoot can be presented live or assigned for self-paced learning.
- **Quizizz** - Quizizz is an alternative to Kahoot that offers self-paced quizzes for students. This platform allows students to complete quizzes at their own pace, enhancing flexibility in learning. According to research Quizizz is a valuable tool for teachers.It helps to provide a way to regularly assess students understanding, identify knowledge gaps and enhance knowledge retention.
- **Screencast-O-Matic and Loom –**Screencast-O-Matic and Loom ar**e** online screen recording tools that allow users to capture video and audio over presentation slides. These tools are ideal for a flipped classroom approach. As they allow students to engage with the material at their own convenience, it promotes active learning and better comprehension. These tools enhance teaching versatility and classroom dynamics. In classrooms, both teachers and students can utilize these tools to create videos that explain content, vocabulary, and more. Screencasts can boost student engagement and achievement while providing additional opportunities for collaborative group work, thereby fostering cooperative learning.

### 2.3. Ensuring Digital Safety and Responsible Internet Use

Teachers have a vital role in guiding students on cyber security, digital ethics, and responsible online behaviour. Teachers help students understand the boundaries of acceptable online conduct. Key components of ensuring digital safety and responsible internet use are:

- **Teaching Digital Citizenship**:It helps to educate individuals, especially students, how to use technology in a responsible, safe, and respectful manner. Teachers can inform students about issues like cyberbullying, plagiarism, and online etiquette.
- **Cyber Security Awareness**: Teachers should spread awareness among students about the need to protect their personal information and passwords, as well as to recognize phishing emails, scams, and other online threats.
- **Safe Online Learning Practices**: This encompasses a range of measures designed to safeguard students and educators from cyber threats during online learning. Some settings are available toimplement parental controls and privacy settings on educational platforms to ensure that students access only verified and safe online resources.

### 2.4 Data analytics in Student Assessment

In student assessment, data analyticsrefers to the process of collecting, analysing, and interpreting student data to understand their learning progress, identify areas of improvement, and make informed decisions to enhance their educational experience.

This involves gathering various types of data, such as grades, test scores, attendance records, and even online learning behaviour. By applying statistical methods and data visualization techniques, educators can gain insights into individual student performance, identify trends and patterns within a class or group, and personalize instruction to meet the unique needs of each learner. Ultimately, data analytics empowers educators to make data-driven decisions that lead to improved student outcomes and a more effective learning environment.

Digital tools assist teachers in analysing student performance, tracking progress, and personalizing learning experiences through Google Forms and Microsoft Forms. These tools enable educators to create quizzes and surveys to gather real-time feedback from students.

### 2.5 Additional AI Driven Platforms

- **Khan Academy -** Khan Academy is a free online educational platform that provides teachers with a wealth of resources, including instructional videos, practice exercises, and personalized learning dashboards. One of its key benefits is its ability to offer self-paced learning, allowing teachers to assign lessons based on individual student needs. The platform provides real-time performance analytics, helping educators track student progress, identify learning gaps, and tailor their teaching strategies accordingly.
- **Edmodo -** Edmodo is a digital learning management system (LMS) that helps teachers create a virtual classroom environment where they can interact with students, assign coursework, and facilitate discussions. One of its main advantages

is its ability to foster communication and collaboration among teachers, students, and even parents. Teachers can post announcements, share educational resources, and provide feedback on assignments in real-time. Additionally, Edmodo's assessment tools enable educators to create quizzes, grade submissions digitally, and generate reports on student performance.

**2.6 AI-Based Tools (Smart Sparrow, DreamBox, and ALEKS) -** Artificial Intelligence (AI)-based educational tools, such as Smart Sparrow, DreamBox, and ALEKS, are transforming teaching by providing personalized and adaptive learning experiences for students. These tools use AI-driven algorithms to analyze student responses and adjust the difficulty level of lessons accordingly.

- **Smart Sparrow**: It allows teachers to design customized interactive lessons with adaptive pathways. This means that students who struggle with a concept receive additional support and explanations, while advanced learners can skip ahead to more challenging materials. The platform also provides teachers with detailed analytics, helping them refine their instructional approach.
- **DreamBox:**It focuses on mathematics education and is particularly beneficial for early learners. It continuously assesses student interactions and provides personalized lessons to strengthen their understanding of math concepts. Teachers can use the platform's insights to identify struggling students and intervene with targeted instruction.
- **ALEKS (Assessment and Learning in Knowledge Spaces)**: It is an AI-driven platform that specializes in assessing student knowledge in subjects like mathematics and science. It offers individualized learning pathways and ensures that students work on topics they are ready to learn while reinforcing previously covered material.

**3. Enhancing Pedagogical Skills with Technology**

Pedagogical skills encompass the techniques and strategies that educators employ to facilitate effective learning. These skills include understanding how students learn, crafting engaging lessons, and evaluating student progress. In our current digital age, the integration of technology into teaching practices significantly boosts both teaching effectiveness and student engagement. Contemporary pedagogical methods emphasize student-centred learning, collaboration, and tailored instruction.

**3.1 Blended Learning –Combining online and in person instruction**

Blended learning is an instructional strategy that merges traditional classroom teaching with digital learning experiences. This approach enables students to engage with part of the content online at their own pace while also enjoying face-to-face interactions with their teacher. Some key features are:

- Students can access digital resources such as videos, articles, and quizzes outside the class.
- Teachers utilize in-class time for discussions, problem-solving, and hands-on activities.
- Digital platforms like Google Classroom, Microsoft Teams, and Moodle support blended learning.

### 3.2 Project-Based Learning (PBL) – Using digital tools for collaborative work

Project-Based Learning (PBL) is a student- centred method where learners engage in real-world projects over an extended timeframe. This approach fosters critical thinking, creativity, and collaboration, often utilizing digital tools for research, communication, and presentation. Key features of PBL are given below:

- Students tackle projects that address real-life challenges.
- Technology is used for research, documentation, and communication.
- Digital platforms like Google Docs, Trello, and Padlet assist in managing collaborative projects.

### 3.3 Flipped Classroom –Using recorded lesson for self-paced learning

This model turns the traditional teaching method into the flipped classroom where recorded lessons are used for self-paced learning instead of delivering lectures during class. Teachers provide pre-recorded lessons or readings for students to review at home and class time is ~~then~~ dedicated to discussions, problem-solving, and application-based activities. YouTube, Edpuzzle, and Loom digital tools are used to create and share lesson recordings.

### 3.4 Adaptive Learning –Personalizing Learning with AI- Driven Platforms

An educational strategy known as "adaptive learning" uses artificial intelligence (AI) to customize the teaching process. Teachers are able to meet the needs of every student. It helps teachers to identify areas where students struggle. It helps teachers spot learning gaps and provide timely support. It can alsobe used effectively in large classrooms

## 4. Challenges in Implementing Digital Literacy and Pedagogical Skills

- **Lack of Training -** Teachers may face difficulty using new technology because they do not receive enough training in digital skills and teaching methods. Without proper training, teachers might struggle to effectively utilize digital tools, which can limit their ability to improve student learning. Some educators only receive basic training on educational technology, leaving them ill-equipped for more advanced applications like data analytics, adaptive learning, and virtual simulations.
- **Limited Access to Technology -** The unequal access to technology among teachers and students is another significant barrier to the implementation of digital literacy

and pedagogical skills. In many areas, particularly in low-income communities, schools often lack adequate technological infrastructure, such as computers, tablets, and reliable internet connections. Teachers without access to modern devices or high-speed internet at home may find it difficult to create digital teaching materials or conduct online lessons. Students who do not have personal access to digital devices may struggle to complete assignments, engage in online discussions, or access educational resources. This digital divide results in an imbalance in learning opportunities.

**5. Solutions and Strategies for Implementation**

- **Conducting Regular Teacher Training and Workshops**

One of the most effective ways to equip teachers with digital literacy and pedagogical skills is through regular training programs and workshops. Many educators struggle with new technology simply because they have not received proper guidance. Professional development programs and technology should be incorporated into lesson plans, utilizing digital assessment tools and managing online classrooms effectively.Training should be continuous and should include hands-on workshops, mentorship programs, and peer-learning opportunities which can further enhance teachers' confidence and competence in using technology. Schools and educational institutions should also collaborate with technology experts and educational organizations to provide comprehensive training that meets the diverse needs of teachers.

- **Investing in Technological Infrastructure and Digital Resources**

For digital literacy and pedagogical skills to be effectively implemented, schools and educational institutions must have access to adequate technological infrastructure. This includes providing computers, tablets, smart boards, and high-speed internet in classrooms. Additionally, investment in digital learning platforms, educational software, and online libraries can enhance teaching and learning experience. Governments and policymakers should prioritize funding for technology in education, especially in underprivileged areas where the digital divide is more prominent. Furthermore, partnerships with private organizations and tech companies can help provide schools with affordable or subsidized digital tools. Ensuring that both teachers and students have access to reliable technology will create an equitable learning environment where digital skills can be effectively nurtured.

- **Encouraging a Culture of Innovation in Education**

To successfully integrate digital literacy and modern pedagogical skills, schools must foster a culture of innovation. Educators should be encouraged to experiment with new teaching methodologies, explore emerging digital tools, and embrace student-centred learning approaches. School leadership plays a crucial role in promoting innovation by supporting teachers with resources, recognizing their efforts, and creating an environment that welcomes change. Collaboration among teachers encourage a

growth mindset, where teachers view technology as an opportunity rather than a challenge.

## Conclusion

*In today's digital era, the need for equipping teachers with both digital literacy and pedagogical skills cannot be overstated. Traditional teaching methods are not sufficient to meet the diverse learning needs of students. Digital tools enable educators to create interactive, engaging, and personalized learning experiences, while strong pedagogical skills help them apply these tools effectively. Teachers who are skilled in digital literacy can utilize online resources efficiently, and support students in developing 21st-century skills such as critical thinking, creativity, and collaboration.*

*Collaboration among educational stakeholders, policymakers, and schools is necessary to equip teachers with digital and pedagogical skills. Schools should provide resources like computers, internet access, and professional development programs. Policymakers must prioritize digital literacy training and allocate funds for technology in schools. Education stakeholders, including NGOs and tech companies, can support teachers through training programs, mentorship, and innovative solutions.*

*We need a workforce of teachers who are well-equipped with digital literacy, which enables a more inclusive educational system where students from a variety of backgrounds can access learning resources at any time and from any location. Technology-driven teaching methods encourage independent learning, problem-solving, and innovation skills that are essential in the modern workforce. By prioritizing digital literacy for educators, we pave the way for a more effective, equitable, and future-ready education system.*

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# Policy on Education or Policy in Education: A Professionals' Debate in Education

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## Abstract

*This paper explores the distinction and interplay between "policy on education" and "policy in education," analyzing their implications for various stakeholders, including policymakers, educators, and institutions. Drawing from multidisciplinary perspectives such as education, economics, sociology, and governance, the paper examines theoretical frameworks, case studies, and challenges in implementing effective education policies. The discussion highlights global trends, the impact of digital transformation, and the evolving role of governance in shaping education systems. Finally, the paper offers recommendations for a balanced approach to education policy formulation and execution.*

***Keywords:*** *Education, Policy, Debate, Case Studies, Perspective*

## Introduction

Education policy is a fundamental driver of social and economic progress, shaping how nations educate their citizens and prepare future generations for the demands of a rapidly evolving global landscape. Within the realm of education policy, an important debate has emerged: the distinction between policy on education and policy in education. These two dimensions, though interconnected, serve different purposes in shaping the educational landscape.

Policy on education refers to the overarching strategies, laws, and frameworks developed by governments and international organizations to guide national or regional education systems (Ball, 2012; Rizvi & Lingard, 2010). These policies address fundamental questions such as curriculum standards, funding allocations, teacher qualifications, and accessibility. In contrast, policy in education focuses on the internal mechanisms and strategies implemented within schools, colleges, and universities to manage teaching methodologies, assessment systems, institutional governance, and student engagement (Fullan, 2016).

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## Theoretical Foundations and Multidisciplinary Perspectives

This section explores the conceptual distinctions between these two policy dimensions, examines theoretical perspectives that underpin education policymaking, and discusses how education policies intersect with multiple disciplines, including economics, sociology, governance, and pedagogy.

### Defining Policy on Education vs. Policy in Education

A clear distinction between policy on education and policy in education is essential to understand their respective roles in shaping learning environments.

***1. Policy on Education***

- Broad, government-led frameworks that define national or regional educational priorities (Brown & Lee, 2024).
- Encompasses legislation, funding mechanisms, and compliance with international benchmarks (UNESCO, 2021).
- Influences structural aspects of education, such as the establishment of standardized testing, teacher accreditation, and resource distribution (Schleicher, 2018).

***Policy in Education***

- Operational policies within educational institutions that affect pedagogy, classroom management, and student outcomes (Carter, 2023).
- Includes school-level strategies, curricular adaptations, faculty development programs, and assessment methodologies (Fullan, 2016).
- Addresses institutional autonomy and governance models, particularly in higher education (Smith, 2024).

Both dimensions are integral to the effectiveness of education systems. While policy on education sets the macro-level agenda, policy in education determines how these frameworks translate into daily learning experiences. The synergy between the two ensures that broader educational goals are effectively implemented at institutional levels.

### Theoretical Perspectives on Education Policy

Education policy is shaped by various theoretical frameworks that offer insights into how policies are formulated, implemented, and assessed. Several key perspectives provide a foundation for analyzing the distinction between policy on and policy in education.

***1. Neoliberalism and Education***

Neoliberalism emphasizes market-driven education policies, privatization, and accountability measures (Hursh, 2007; Green & Patel, 2024). Under this model, policies

often encourage competition among schools, performance-based funding, and standardized assessments.

- Impact on Policy on Education: Governments adopt performance metrics to evaluate institutions, leading to policies that prioritize economic efficiency over educational equity (Brown & Lee, 2024).
- Impact on Policy in Education: Schools and universities implement data-driven decision-making, ranking-based admissions, and commercial partnerships to align with policy goals (Smith, 2024).

***2. Human Capital Theory***

Human Capital Theory posits that education is an investment in human resources, leading to economic growth and national development (Becker, 1993; Jones et al., 2023).

- Impact on Policy on Education: Governments formulate policies emphasizing STEM education, vocational training, and workforce alignment (Hanushek &Woessmann, 2012).
- Impact on Policy in Education: Institutions focus on industry partnerships, employability skills, and digital literacy integration (Carter, 2023).

***3. Critical Pedagogy***

Rooted in the works of Paulo Freire (1970), critical pedagogy challenges power dynamics in education, advocating for social justice, equity, and inclusion (Williams & Torres, 2023; Kanvaria & Sunidhi, 2025).

- Impact on Policy on Education: Governments emphasize inclusive education policies, gender-sensitive curricula, and multicultural learning (UNESCO, 2021).
- Impact on Policy in Education: Institutions implement anti-discrimination policies, culturally responsive teaching, and equity-focused assessment strategies (Apple, 2004).

These theoretical lenses help policymakers and educators understand the underlying forces driving education policies and their real-world implications.

**Multidisciplinary Perspectives on Education Policy**

Education policy is inherently multidisciplinary, intersecting with economics, sociology, governance, and pedagogy. Each discipline offers unique insights into how policies influence education systems.

***1. Education and Pedagogy***

- Policy on Education: Shapes national curriculum frameworks, teacher qualification standards, and literacy initiatives (Schleicher, 2018; Kanvaria & Yadav, 2023).

- Policy in Education: Affects instructional methods, formative assessments, and technology integration in classrooms (Adams & Nguyen, 2023).

Example: The Finnish education model demonstrates how decentralized pedagogical policies enhance student autonomy and critical thinking (Sahlberg, 2011).

***2. Economics of Education***

- Policy on Education: Determines education budgets, public vs. private sector funding, and international financial aid allocation (Hanushek & Woessmann, 2012).
- Policy in Education: Affects institutional financial models, student loan structures, and faculty compensation (Jones et al., 2023).

Example: The United States' student loan crisis highlights how national funding policies influence institutional affordability and student debt burdens (Ravitch, 2010).

***3. Sociological Dimensions***

- Policy on Education: Addresses issues of equity, inclusion, and universal access to education (Bourdieu &Passeron, 1990).
- Policy in Education: Involves institutional diversity initiatives, support programs for marginalized students, and community engagement (Apple, 2004).

Example: India’s National Education Policy (NEP) 2020 emphasizes multilingual education, social mobility, and gender parity in schooling (Government of India, 2020).

***4. Governance and Policy Implementation***

- Policy on Education: National and international organizations (UNESCO, OECD, World Bank) set benchmarks for educational quality and compliance (Mundy, 2007).
- Policy in Education: Schools and universities navigate regulatory requirements, institutional autonomy, and accreditation processes (Levin, 1998).

Example: China’s centralized education policy ensures national uniformity but limits institutional flexibility in curriculum design (Marginson, 2016).

**Comparative Case Studies and Challenges**

Education policy plays a crucial role in shaping national development, human capital, and social equity. However, the implementation of education policies varies significantly across countries, influenced by historical, economic, and socio-political contexts. The distinction between policy on education and policy in education is critical in understanding how national strategies translate into institutional practices.

This section presents comparative case studies from diverse education systems, analyzing how national-level policies (policy on education) influence institutional-level policies (policy in education). It also explores key challenges and controversies in education policy making, including governance structures, digital transformation, access and equity, and ethical considerations (Kanvaria, 2021).

**Comparative Case Studies: Global Perspectives on Education Policy**

Education policies are highly contextual and reflect the unique socio-political and economic priorities of different nations. The following case studies highlight how different countries balance policy on education and policy in education, illustrating best practices and ongoing challenges.

***1. Finland: A Model of Progressive and Decentralized Education Policy***

Policy on Education: Finland is globally recognized for its highly decentralized education system that emphasizes teacher autonomy, flexible curricula, and student-centered learning (Sahlberg, 2011). The government sets broad policy frameworks but allows local authorities and schools to determine how these policies are implemented.

Policy in Education: Schools in Finland operate with significant independence, tailoring curricula to student needs. There is no standardized national testing until the final years of high school. Teachers, who are highly trained and respected professionals, develop pedagogical strategies that align with student interests and abilities (Schleicher, 2018).

Key Takeaways:

- Decentralization promotes innovation at the institutional level.
- Policy alignment between national goals and institutional flexibility leads to high student performance and satisfaction.

***2. United States: The Impact of Standardized Testing and Federal Policies***

Policy on Education: The U.S. follows a federalized education model, where state governments control curriculum and funding, while the federal government influences education through legislative acts such as the No Child Left Behind Act (2001) and the Every Student Succeeds Act (2015) (Ravitch, 2010). These policies emphasize standardized testing, accountability, and school performance metrics.

Policy in Education: Schools and districts are required to align curricula and teaching methods with standardized test outcomes, often prioritizing test preparation over holistic learning. This has led to criticisms of teaching to the test, reducing creativity and critical thinking in classrooms (Smith, 2024).

Key Takeaways:

- Overemphasis on standardized assessments can narrow educational focus.
- Federal mandates sometimes clash with institutional flexibility in curriculum design.

***3. India: The National Education Policy (NEP) 2020 and Multidisciplinary Learning***

Policy on Education: India's National Education Policy (NEP) 2020 is a transformative framework that promotes multidisciplinary education, holistic learning, and digital integration (Government of India, 2020). It shifts the education system away from rote

learning and emphasizes experiential learning, skill-based education, and multilingual instruction.

Policy in Education: Indian universities and schools have started restructuring curricula to incorporate skill-based courses, reduce exam stress, and enhance interdisciplinary learning. However, challenges such as infrastructural gaps, teacher training deficiencies, and digital accessibility remain obstacles to effective implementation (Carter, 2023).

Key Takeaways:

- Ambitious reforms require strong implementation strategies at the institutional level.
- Bridging the digital divide is essential for equitable access to education.

***4. China: Government-Led Educational Reforms and Technology Integration***

Policy on Education: The Chinese government adopts a centralized approach to education policy, focusing on STEM education, high-stakes examinations (Gaokao), and international competitiveness (Marginson, 2016). Massive investments in AI-driven education and EdTech startups position China as a leader in digital learning.

Policy in Education: Chinese universities and schools integrate AI-powered learning analytics, adaptive curricula, and online education platforms (Williamson, 2018). However, concerns regarding academic pressure, lack of student autonomy, and socio-economic disparities persist.

Key Takeaways:

- Technology-driven policies enhance education but raise concerns about student well-being and equity.
- Centralized policies can drive rapid educational reforms but may limit institutional autonomy.

***5. United Kingdom: Decentralized Education Policies and Regional Variations***

Policy on Education: The UK education system is highly decentralized, with separate policies for England, Scotland, Wales, and Northern Ireland. While England has a market-driven approach (academy schools and performance-based funding), Scotland follows a more social-democratic model with free university education (Smith, 2024).

Policy in Education: Schools and universities in the UK have substantial autonomy, leading to regional disparities in curriculum, assessment methods, and resource allocation. The rising privatization of education in England has sparked debates about educational equity (Brown & Lee, 2024).

Key Takeaways:

- Regional autonomy enables policy experimentation but can lead to inconsistencies in education quality.

- Privatization raises concerns about access and affordability.

**Challenges and Controversies in Education Policy**

1. The Tension between Government Control and Institutional Autonomy Countries struggle to balance centralized policy-making with institutional independence.

- Finland allows full institutional autonomy.
- China maintains strict government control over curricula.
- The U.S. and the UK present hybrid models with varying degrees of autonomy.

2. Ethical Considerations in Policy-Making

- Digital equity: Unequal access to technology affects students in developing nations (Selwyn, 2011).
- Standardized testing: The pressure to perform can hinder creativity and mental well-being (Smith, 2024).
- Cultural sensitivity: Education policies must respect linguistic and cultural diversity (UNESCO, 2021).

3. The Growing Role of Artificial Intelligence in Education Policy

- AI-driven education tools enhance personalized learning but raise concerns about data privacy and algorithmic bias (Williamson, 2018).
- China and the U.S. lead in AI-integrated education policies, while Europe debates ethical AI use in schools (Green & Patel, 2024).

4. Privatization and Inequality in Education

- Rising tuition fees and privatization in England, the U.S., and India limit access to quality education (Brown & Lee, 2024).
- Public education models in Finland and Scotland ensure equitable access but require high government expenditure.

5. Bureaucratic Barriers in Policy Implementation

- Developing nations face administrative challenges in implementing ambitious education policies (Carter, 2023).
- Overregulation stifles innovation in curriculum design and pedagogical methods.

**Future Implications and Recommendations**

***Implications for Stakeholders***

- Policymakers: Need for a dynamic, evidence-based approach to policy formulation.
- Educational Institutions: Balancing compliance with innovation.
- Teachers and Students: Adapting to policy-driven educational environments.

**Future Directions**

- Emerging trends in AI-driven education policy (Selwyn & Facer, 2013).
- The shift toward sustainability and global standardization in education policies (UNESCO, 2021).
- Recommendations for fostering a balance between policy on education and policy in education.
- Strengthening international collaborations for knowledge exchange (Carter, 2023).
- Addressing the digital divide through inclusive technology policies (Green & Patel, 2024).
- Implementing lifelong learning policies to adapt to labor market shifts (Brown & Lee, 2024).
- Strengthening data-driven decision-making in education policy development (Smith, 2024).

**Conclusion**

This paper underscores the need for a nuanced understanding of education policy. By examining both "policy on education" and "policy in education," it highlights the importance of a holistic approach that integrates global trends, technological advancements, and equitable access. A forward-thinking education policy framework must be dynamic, inclusive, and adaptable to the changing needs of society.

By analyzing education policy through multidisciplinary perspectives, we gain a comprehensive understanding of how different forces shape education systems globally. Whether through top-down governmental reforms or grassroots institutional policies, education must remain dynamic, inclusive, and responsive to the changing needs of society.

The case studies illustrate that education policy is highly contextual, influenced by national priorities, governance models, and socio-economic conditions. Countries like Finland and Scotland emphasize institutional autonomy and equity, while China and India focus on centralized reform and digital integration. The challenges of equitable access, digital transformation, governance structures, and ethical considerations remain central to education policy discussions.

A balanced approach that combines macro-level policy direction with institutional flexibility is essential for sustainable educational reforms. Future policies must prioritize equity, digital inclusion, teacher empowerment, and interdisciplinary learning to address the evolving demands of the 21st century.

The debate between policy on education and policy in education is not merely theoretical—it has real-world implications for governments, educators, and students. The effectiveness of an education system depends on the harmonization of macro-level

policy directives with institutional strategies that align with evolving pedagogical, economic, and sociological contexts.

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