

## **Role of Multidisciplinary and holistic Education in Solving Global Challenges: with special reference to NEP 2020**

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### **Abstract**

Multidisciplinary education combines different subjects to offer a comprehensive learning experience. It aims to show how various fields are interconnected and can be used together to solve complex problems efficiently. This approach allows students to gain a deeper understanding of the material by considering multiple perspectives. Moreover, it helps develop crucial skills like collaboration, communication, critical thinking, and teamwork. The NEP-2020 highlights the importance of integrating multidisciplinary education into the curriculum early on. Exposure to diverse fields helps students not only understand their chosen subject but also appreciate other knowledge systems. This makes them more well-rounded individuals and prepares them for the challenges of today's world. The absence of a multidisciplinary approach has impeded higher education in India. The NEP-2020 offers an opportunity to tackle these challenges through multidisciplinary, interdisciplinary, and transdisciplinary education. The researcher aims to demonstrate the value of incorporating multidisciplinary education within the NEP-2020 framework and emphasize how it can equip students with the skills needed to tackle the complex challenges of the 21st century.

**Keywords:** Comprehensive approach, Cross-disciplinary approach, Diversity, Spatial analysis.

### **Introduction**

The National Education Policy (NEP) of India is an extensive document that sets out the vision for the future of education in the nation. The most recent edition of the policy was unveiled in 2020, marking a 34-year gap since the previous release. Its objective is to revamp the current education system into one that is more comprehensive, interdisciplinary, and inclusive. The integration of holistic and multidisciplinary education within the NEP represents a significant advancement towards establishing a better-rounded educational framework in India. Holistic education encompasses the nurturing of the complete individual, encompassing their physical, emotional, and intellectual well-being. This methodology acknowledges that education goes beyond mere knowledge acquisition, emphasizing the cultivation of character, values, and skills necessary for individuals to lead enriching lives. Conversely, multidisciplinary education concentrates on merging various subjects and disciplines to offer a more thorough and interconnected comprehension of the world. This approach acknowledges the intricate nature of contemporary global issues, necessitating interdisciplinary resolutions. The NEP acknowledges the significance of these methods and aims to incorporate them into the education system across all levels. The policy underscores the shift from rote learning and memorization towards an experiential and inquiry-based educational approach. This change will empower students to hone critical thinking, problem-solving, and communication skills crucial for succeeding in the 21st century. Furthermore, the NEP advocates for the inclusion of vocational education into mainstream education to

equip students with practical skills that enhance their employability. This strategy recognizes the necessity of a more inclusive educational system that caters to the diverse needs and aspirations of students from varying backgrounds.

### **Multidisciplinary and Holistic Education**

Multidisciplinary and Holistic Education has always been seen as essential for achieving success in life. As our understanding of learning progresses, it's vital that our educational methods also progress. The multidisciplinary and holistic model has become increasingly popular. This model breaks down traditional disciplinary boundaries and creates a flexible learning environment for students. It enables students to explore various subjects and fields, from sciences and mathematics to humanities, languages, and social sciences. They develop integrated competencies, including intellectual, aesthetic, social, physical, emotional, and moral aspects. With this approach, students no longer need to question whether they can pursue mathematics and psychology simultaneously; their choices are guided by their interests and career goals. This approach not only promotes a comprehensive understanding of the world but also enhances critical and creative thinking by examining topics from multiple perspectives. As education progresses, implementing a multidisciplinary and holistic approach is crucial for offering students a well-rounded and adaptable education.

The NEP-2020 has implemented interdisciplinary education as a holistic method across various fields to promote coherence and unity of knowledge. Education plays a significant role in individuals' lives as it can bring about positive change globally. The NEP-2020 is a detailed plan designed to enhance education through increased access, holistic approaches, interdisciplinary involvement, and positive results. In the postmodern era of the 21st century, the importance of multidisciplinary education is undeniable. NEP-2020 emphasizes integrated and transdisciplinary education, advocating a shift from stand-alone to multidisciplinary institutions. The policy recommends large multidisciplinary universities and colleges to offer flexible curricula and engaging course options, promoting cross-disciplinary thinking. According to NEP-2020, an interdisciplinary approach should develop all human capacities, including intellectual, artistic, social, physical, emotional, and moral abilities. HEIs are required to establish departments in various subjects and include credit-based courses in areas like environmental education and community engagement. The undergraduate degree program will typically range from three to four years, with multiple pathways for graduation. HEIs will introduce an Academic Bank of Credit to record academic credits and may offer "with Research" degrees for students completing rigorous research projects. Multidisciplinary Education and Research Universities (MERUs) will be established to provide comprehensive education on par with prestigious institutions. These universities will uphold global standards of educational excellence and promote research and innovation through various partnerships. HEIs must lead efforts to adapt to an ever-changing world and prepare for future challenges effectively.

### **Multidisciplinary Learning in School Education**

According to the National Education Policy (NEP) 2020, a curriculum that integrates topics, themes, and skills from various domains will allow students to engage with information in a more significant and cohesive manner. The Ministry of Education (2020) advocates for a more adaptable framework that permits students to choose course combinations based on their interests and abilities, thereby replacing the outdated classification of streams into Science, Commerce, and Humanities.

This transformation is illustrated by the introduction of experiential learning, arts integration, storytelling, and vocational training beginning in Grade 6. NEP 2020 also recommends a streamlined curriculum that emphasizes foundational skills, higher-order thinking, and practical applications, supported by diagnostic, formative, and

multidimensional assessments (NCERT, 2021). Furthermore, multidisciplinary teaching methods are encouraged through the training and up skilling of school teachers, who are urged to act as facilitators of cross-disciplinary learning using collaborative, project-based approaches (Nanda, 2022). This strategy equips students for more meaningful transitions into higher education and the workforce, as well as fostering deeper, lifelong engagement with learning.

### **The future of education in India**

Significant educational reforms are expected in 2023 due to the new National Education Policy (NEP). STEM-based learning will be boosted as skill-based education gains momentum. There have been targeted policy advancements in school education, focusing on tech-enabled solutions to promote digital literacy and inclusive access to quality learning approaches. As NEP unfolds, school curricula will undergo substantial modifications to emphasize experiential learning. Schools will begin introducing programs aimed at enhancing the enjoyment of learning. The focus is currently on supporting a child's overall development to help them become responsible adults equipped with the necessary skills, due to changes in educational settings. Educators are placing more importance on holistic learning in education, which focuses on both a child's academic progress and their readiness to face challenges in life. Holistic education offers numerous benefits. It equips students with the resources to enhance their academic performance and cultivate the interpersonal skills essential for a thriving career. The enhancement of academic success, mental and emotional well-being, and problem-solving abilities through holistic learning is just one of its various advantages.

### **Benefits of Multidisciplinary Education**

Multi-disciplinary education, which involves integrating various academic disciplines, provides numerous advantages that enhance learning, spur creativity, and ready individuals for success in an interconnected world. By dismantling traditional subject barriers, multi-disciplinary education nurtures a holistic comprehension of intricate matters, enhances critical thinking, and encourages innovation. Here are the key benefits of multi-disciplinary education:

**1. Comprehensive Understanding:** Multi-disciplinary education allows learners to explore subjects from diverse viewpoints, leading to a more thorough grasp of complex phenomena. By merging insights from different fields like science, technology, humanities, and social sciences, students gain a wider perspective encompassing both depth and breadth of knowledge.

**2. Interconnectedness of Knowledge:** In a world where issues are increasingly interconnected, multi-disciplinary education helps students understand the interplay between various fields of study. This interconnectedness enables learners to draw connections between apparently unrelated concepts and apply knowledge from one discipline to solve problems in another.

**3. Critical Thinking Skills:** Exposure to diverse perspectives fosters critical thinking and analytical abilities. By assessing evidence, evaluating arguments, and synthesizing information from various sources, students develop the capacity to think critically about complex matters and make well-informed decisions.

**4. Creativity and Innovation:** Multi-disciplinary education sparks creativity by introducing students to different thinking styles and problem-solving methods. By integrating insights from varied disciplines, learners are prompted to think innovatively and devise creative solutions to real-world issues, fostering a culture of innovation and entrepreneurship.

**5. Adaptability and Versatility:** In a fast-changing world, adaptability and continuous learning are crucial for success. Multi-disciplinary education equips students with a versatile skill set that transcends disciplinary boundaries, enabling them to thrive in diverse career paths and confront challenges effectively.

**6. Collaboration and Communication:** Collaboration across disciplines is vital for addressing complex societal issues. Multi-disciplinary education encourages collaboration by offering opportunities for students to collaborate with peers from various backgrounds and expertise. Through collaborative projects and discussions, learners hone effective communication and teamwork skills necessary for navigating diverse professional settings.

**7. Global Perspective:** Lastly, multi-disciplinary education fosters a global outlook by exposing students to diverse cultures, histories, and worldviews. By recognizing the interconnectedness of global problems and embracing cultural diversity, learners develop empathy, cultural competence, and a global citizenship mindset essential for addressing shared challenges on a global scale.

Multi-disciplinary education provides numerous advantages that help individuals succeed in a connected and fast-changing world. By encouraging a deep comprehension of intricate matters, fostering critical thinking and creativity, and developing adaptability and collaboration skills, multi-disciplinary education gives learners the resources to tackle worldwide challenges effectively.

## **Implementing a Holistic and Multidisciplinary Approach in the Indian Education System**

The integration of holistic and multi-disciplinary education into mainstream education systems necessitates a unified effort to overhaul curriculum, teaching methods, and assessment techniques to embody a more comprehensive and interconnected approach to learning. Here is a breakdown of how to achieve this implementation:

### **1. Curriculum Design**

**Curriculum Revision:** Education authorities must update existing curricula to include multi-disciplinary viewpoints and highlight the interrelation of knowledge areas by identifying fundamental concepts and skills that transcend disciplines.

**Interdisciplinary Courses:** Schools can introduce courses that explore complex issues from diverse perspectives, enabling students to apply knowledge from various fields to real-world problems. These courses should be collaboratively designed by educators from different subjects for coherence and relevance.

**Project-Based Learning:** Encouraging project-based learning fosters collaboration, critical thinking, and problem-solving skills as students work on interdisciplinary projects tackling real-world challenges, drawing on knowledge from different domains to devise innovative solutions.

### **2. Teacher Training and Professional Development:**

**Professional Development Programs:** Education authorities should offer teachers opportunities for professional development focused on multi-disciplinary teaching methods and holistic practices to equip them with the skills to design and implement integrated curriculum units and assess student learning across multiple domains.

**Collaborative Planning:** Promoting collaborative planning among teachers from various disciplines enhances lesson planning by integrating diverse perspectives and ideas to ensure alignment and coherence across subjects.

### **3. Assessment and Evaluation:**

**Multi-Dimensional Assessment:** Beyond traditional exams, assessment practices should include performance-based assessments measuring students' ability to apply knowledge across disciplines, such as portfolio assessments, presentations, projects, and collaborative tasks.

**Rubrics and Criteria:** Developing assessment criteria reflecting multi-disciplinary objectives ensures consistency and fairness in evaluating student performance by outlining expectations for interdisciplinary skills.

Providing constructive feedback throughout the learning process using strategies like peer assessment and teacher feedback supports students' progress and identifies areas for improvement.

### **4. Resources and Support:**

**Curriculum Materials:** Providing schools and teachers with quality resources and tools supporting multi-disciplinary education, such as interdisciplinary textbooks, online resources, and case studies, facilitates cross-curricular connections.

**Collaboration Platforms:** Establishing online platforms for collaboration enables educators to share best practices, collaborate on curriculum development, and access support from peers and experts in multi-disciplinary education.

Implementing holistic and multi-disciplinary education in mainstream systems necessitates a comprehensive approach that addresses curriculum design, teacher training, assessment practices, and resource provision. By nurturing collaboration, creativity, critical thinking, and problem-solving skills, multi-disciplinary education equips students with the competencies to tackle complex challenges and excel in a dynamic world.

## **Holistic Development and Nation-Building**

The primary aim of multidisciplinary and holistic education is to cultivate well-rounded individuals who can thoughtfully and compassionately address complex social, environmental, and technological issues. This objective aligns with India's constitutional commitment to fostering inclusive development and democratic citizenship. The National Education Policy (NEP) 2020 aspires to empower students not only to earn a livelihood but also to lead fulfilling lives and engage actively in national progress and global welfare by encouraging academic diversity, ethical reasoning, and emotional intelligence (Nanda, 2022). The creation of citizens who are both rooted and globally aware is further enhanced by the integration of Indian knowledge systems, environmental awareness, the arts, and core values. Additionally, the vision of this policy is closely aligned with the United Nations Sustainable Development Goal 4 (SDG 4), which promotes quality education and lifelong learning opportunities for everyone.

## **Thematic Perspective on Multidisciplinary Education in NEP 2020**

The National Education Policy (NEP) 2020 outlines an educational framework that redefines learning by taking a multidisciplinary approach. The policy's thematic focus brings together various elements such as arts and sciences, skill development, flexible curriculum, teacher training, and the use of technology into a single, cohesive educational system. These related themes work together to support the overall development of students, helping them adapt to a rapidly changing world while ensuring fairness, high-quality education, and equal opportunities for all.

## **The Integration of Arts and Sciences**

The objective of NEP 2020 is to cultivate a culture of inquiry, innovation, and creativity by breaking down the traditional barriers that have historically separated the arts from the sciences. It promotes the idea that various disciplines are deeply interconnected and mutually beneficial, rather than existing in isolation. Currently, students are encouraged to explore academic pairings such as data science and literature, physics and philosophy, or mathematics and music. This interdisciplinary blend nurtures critical thinking, emotional intelligence, and creative problem-solving abilities that are vital for learners in the twenty-first century (Ministry of Education, 2020). The fusion of arts and sciences is not simply an academic suggestion but a crucial component of NEP's comprehensive education framework. It corresponds with the policy's focus on cultural grounding and global significance, recognizing both India's rich cultural legacy and the requirements of a swiftly changing global environment (Nanda, 2022).

### **The policy's significant emphasis**

The policy places a strong emphasis on skill-based learning, which enhances the relevance of this disciplinary integration. The NEP 2020 mandates early exposure to vocational education beginning in Grade 6, focusing on experiential and hands-on learning. By incorporating digital literacy, problem-solving skills, entrepreneurship, and life skills into the curriculum, students are equipped for both academic achievement and real-world challenges (NCERT, 2021). Skill-based learning enriches Tran's disciplinary education by integrating practical knowledge into academic structures. For instance, an environmental science student may simultaneously learn GIS mapping or sustainable agriculture techniques. Consequently, skill education ensures that students are adaptable, employable, and socially responsible, thereby complementing their academic breadth.

### **Teacher Readiness for Multidisciplinary Teaching**

Nonetheless, the readiness of educators is essential for the effective realization of this goal. In the context of applying Tran's disciplinary policies within the classroom, teachers serve as the vital connection. To empower teachers in facilitating interdisciplinary learning, developing project-based curricula, and assessing students through methods beyond mere rote memorization, the NEP 2020 mandates significant reforms in teacher education and professional development (Moe, 2020). Cultural awareness, educational creativity, and exposure to diverse disciplines are integral elements of multidisciplinary teacher preparation programs.

### **The Importance of Technology in Enabling Integration**

The deliberate use of educational technology aids in the effective integration of these themes. Digital platforms such as SWAYAM, DIKSHA, and virtual labs simplify access to a wide range of learning resources across various disciplines. Learning management systems and AI-driven tools provide personalized, interdisciplinary learning experiences that transcend both academic and geographic boundaries (UGC, 2021). Technology enhances Tran's disciplinary education by serving as a catalyst.

### **The Multidisciplinary Approach: Opportunities and Future Directions**

By allowing students to explore a diverse range of subjects beyond rigid academic streams, multidisciplinary education opens up new pathways for comprehensive development. This approach enhances creativity, critical thinking, and problem-solving skills by integrating the arts, sciences, and vocational training. It promotes lifelong learning, increases employability, and offers adaptability in addressing real-world challenges.

Furthermore, it encourages inclusivity by providing flexible learning options that accommodate various learners, cultivating well-rounded individuals equipped for both professional and personal growth in the twenty-first century.

It offers students virtual access to scientific simulations, language courses, arts-based programs, and vocational skills, allowing them to explore, collaborate, and innovate across different fields. The National Educational Technology Forum (NETF) plays a crucial role in guiding the integration of digital infrastructure during this transition (Moe, 2020).

### **Teacher Training and Professional Development:**

The significance of professional growth and teacher training cannot be overstated. It is essential to implement regular capacity-building initiatives that equip teachers with interdisciplinary pedagogies, such as inquiry-driven strategies, project-based learning, and experiential learning. To foster an innovative and integrated culture, faculty members should be motivated to collaborate across disciplines through co-teaching and joint curriculum development.

### **Assessment Reforms**

In conjunction with these educational modifications, it is essential to implement assessment reforms. Traditional rote-based testing methods should be replaced by formative assessments, performance activities, and portfolio evaluations to effectively capture the diverse learning outcomes associated with a multidisciplinary approach. These assessments will provide a more accurate representation of students' critical thinking, creativity, and application skills.

### **Technology Integration**

The integration of technology significantly enhances multidisciplinary education. The emergence of MOOCs, virtual labs, and open educational resources (OERs) can promote blended and cross-disciplinary learning, especially in resource-limited settings. Furthermore, AI-driven personalized learning technologies enable students to tailor their educational journeys, thereby improving the accessibility and relevance of various courses.

### **Challenge in implementing multidisciplinary approach**

The implementation of a multidisciplinary approach presents significant challenges. Although the National Education Policy (NEP) 2020 establishes a robust framework for reforming the Indian education system through a multidisciplinary lens, the journey towards actualization is laden with obstacles. These obstacles extend beyond structural issues to encompass cultural, pedagogical, and operational dimensions. Key challenges include institutional resistance, inflexibility in curriculum and assessment, and the necessity for enhancing the skills of educators.

### **Conclusion**

The transformative potential of the National Education Policy (NEP) 2020 to reimagine India's educational landscape through a multidisciplinary approach is reaffirmed in this document. This article demonstrates how NEP 2020 envisions a holistic, inclusive, and future-oriented learning model by incorporating thematic perspectives such as the integration of arts and sciences, a focus on skill-based education, the adaptability of the curriculum via the Choice Based Credit System (CBCS), teacher training, and the strategic implementation of technology. Addressing the challenges requires a proactive and collaborative effort from all stakeholders within the educational framework.

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