



MULTIDISCIPLINARY APPROACH IN THE CONTEXT OF HIGHER EDUCATION: WITH SPECIAL REFERENCE TO NEP 2020

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Abstract:

The researcher examines the transformative impact of the National Education Policy (NEP) 2020 on India's higher education system, with a particular emphasis on the shift towards a multidisciplinary approach. Historically, India's educational framework has been characterized by rigid disciplinary boundaries. NEP 2020 advocates a holistic, flexible curriculum that integrates diverse fields, including the humanities, sciences, and vocational studies. This paper examines the evolution of multidisciplinary education, its various dimensions cognitive, pedagogical, curricular, technological, and organizational, and its alignment with the objectives of NEP 2020. The researcher utilizes secondary data from academic journals, policy documents, and institutional reports to analyze the policy's implementation and its challenges, including faculty readiness, curriculum integration, and institutional resistance. Findings suggest that adopting a multidisciplinary approach is crucial for developing students' adaptive, critical, and creative skills, thereby preparing them for the complex global challenges they will face. The study underscores the need for systemic reforms to foster an inclusive, flexible, and student-centered higher education ecosystem in India.

Keywords: Multidisciplinary Approach, Higher Education, National Education Policy 2020, NEP 2020

1. Introduction

Higher education in India has undergone a remarkable transformation due to technology enhancement, globalization, and rapidly changing societal needs. Higher education in India plays a crucial role in developing the country's youth population. As we all know, India has one of the largest youth populations across the globe.

Higher education has played a significant role in nation-building, growth, and development. At this stage, youth develop professional skills, cultivate creative and critical thinking, and engage in research and innovation. The higher education system in India is very vast, with universities, colleges, and technical institutions. At this stage, education provided by both public and private sectors has expanded the reach of students and their academic goals.

The Indian government has recently introduced the National Education Policy (NEP) 2020 to reform the country's education structure. The primary purpose of this policy is to make education more flexible, accessible, and affordable. The policy focuses on providing quality education from pre-primary education to higher education.

The policymakers emphasize education based on a collaborative approach. Enhance learners' creative and critical thinking skills, solve problems in real-world situations, and build learners' potential in a skill-oriented manner. Nowadays, higher education in India faces numerous challenges, including outdated curricula, a lack of life skills, insufficient research output, unequal educational opportunities, and an increasing unemployment rate. Subjects' knowledge is not interrelated. In today's society, increasingly complex problems arise daily. In these perspectives, we need advanced knowledge to solve the issues.

The multidisciplinary approach is crucial for today's education due to the complexity of real-world problems and the changing demands of society. This approach integrates knowledge from various academic disciplines to solve the problem. It's also a collaborative learning approach for gathering knowledge across multiple dimensions of a discipline. In this era, we are living in an interconnected world. Education has not depended solely on traditional subjects. This learning approach equips the students with the life skills and significant knowledge and understanding to face real-life challenges.

This learning approach refers to the integration of disciplines, such as interdisciplinary or transdisciplinary approaches. In this framework, each discipline contributes separately to understanding the problem and collaborates to find a solution. For example, a researcher, knowing the attitude of teachers towards inclusive education, first formulates an attitude scale with the help of educational psychology and uses a proper research methodology to gather data, analyze it, and interpret the results through statistics. And understanding social impact through sociology. Each discipline has contributed uniquely to understanding the scenario.

Moreover, the approach to learning enables learners to develop critical thinking and creative problem-solving skills. These skills are essential in navigating complex challenges in both academic and real-world settings. By fostering an environment that encourages inquiry and exploration, learners are better equipped to innovate and adapt in a rapidly changing landscape. Students gain an in-depth understanding of real-world problems through this approach (Sardar Panda., 2024; Sharma, 2018). A holistic, interactive, and collaborative nature approach has made education more meaningful, fruitful, and applicable.

Objectives of the Paper:

In this paper, researchers have formulated objectives to understand the multidisciplinary approach.

1. To investigate the historical background of the multidisciplinary approach.
2. To explore the various dimensions of a multidisciplinary approach.
3. To know the multidisciplinary approach in the context of NEP 2020.

2. Methodology

The present study researcher has applied a secondary research method, gathering information from various journals, dissertations, books, and online sources. This method involved collecting, analyzing, and synthesizing existing data.

Discussion according to the objectives:

Historical Background of the Multidisciplinary Approach

A multidisciplinary approach is an integrated, holistic method that draws on knowledge from multiple disciplines, fostering innovation and enhancing creative problem-solving. This approach has roots in ancient times and is both traditional and cultural.

- a. **Ancient period:** Before the 16th century, famous philosophers and educational thinkers such as Aristotle and Plato proposed that pure knowledge is never constructed from a single subject. They never limited knowledge to any specific topic. Since ancient times, renowned philosophers have explored various disciplines, including logic, ethics, politics, biology, and metaphysics. These disciplines have invented knowledge interconnectedly. The concepts of a multidisciplinary approach have existed since ancient times.
- b. **Impact of the Renaissance: The period from the 13th to the 17th century is generally referred to as the Renaissance.** This period marked the beginning of a cultural movement, as ancient knowledge also underwent a transformation and revival. A remarkable blend of science, literature, and art is evident in the works of renowned philosophers, architects, painters, physicists, and other creative individuals. *Leonardo da Vinci* is a shining example.
- c. **Enlightenment of the 18th century:** During this era, knowledge was grounded in empirical evidence and scientific inquiry. As a result, various research disciplines have emerged, including philosophy and the natural sciences, such as physics, chemistry, and mathematics. Thinkers like *Sir Isaac Newton* integrated different branches of knowledge, which helped to establish scientific connections.
- d. **Specialization and reaction of the 19th–20th centuries:** The development of higher education in this era led to an increasing specialization of knowledge, and academic subjects became formalized. Moreover, in the 20th century, the system of education became increasingly complex due to societal needs and scientific challenges. Promote integrative thinking, systems theory, and **cybernetics**. Understanding complex concepts, thinkers, and researchers have integrated knowledge from the natural and social sciences. This interdisciplinary approach has constructed the foundation of the modern multidisciplinary approach.

- e. Multidisciplinary in a modern perspective:** In the current scenario, we are aware of globalization. Technological advancements have played a crucial role in education and research. These transformations of concept give rise to complex global challenges. Post-World War II problems have been immense, arising in real-life situations like urbanization, war, and public health issues, etc., that cannot be solved with a single discipline. The 21st-century education system has emphasized addressing societal complexities, and a key objective of higher education is preparing learners to face real-world challenges.

Various Dimensions of Multidisciplinary Approach in Higher Education

This approach involves integrating knowledge, skills, and context from various disciplines to enrich ideas and understanding, thereby solving complex problems. This approach encompasses multiple dimensions from different perspectives in higher education. Please discuss key dimensions to gain a deeper understanding of the multidisciplinary approach.

- a. Cognitive Dimension: It is associated with the learning process and integrates knowledge from various content areas.**
- i. Higher-order thinking key analysis, synthesis, and evaluation
 - ii. Develop metacognitive skills, understanding, and awareness of how learning occurs.
 - iii. Linkage context connected and integrated several contents in a meaningful and purposeful manner.
- b. Pedagogical dimension: This dimension is directly related to the strategic and methodological process.**
- i. Collaborative teaching method is also known as team teaching. This instructional approach is based on teamwork and co-teaching in the classroom.
 - ii. Project method: This approach involves drawing on multiple sources to solve a single problem.
 - iii. Case studies help learners explore their understanding of the problem from multiple perspectives.
- c. Curriculum dimension: This relates to constructing multiple content curricula.**
- i. Integrated courses in environmental studies
 - ii. Thematic unit for sustainability
 - iii. Flexible curriculum design instructed curriculum according to the needs of the learners.
- d. Practicableness: application-based; learners apply and gain knowledge in real-life contexts.**
- i. Internships and fieldwork
 - ii. Outreach program and community project
 - iii. Entrepreneurial tasks
- e. Technological advancements: Modern technology has expanded and facilitates this approach. Here are some highlighted points:**
- i. Digital tools such as various simulations, modelling software, and virtual labs
 - ii. Online platform SWAYAM

- iii. Collaborating technologies
- f. Organizational dimension:** This tension relates to institutional norms, support, and structural conditions.
 - i. Faculty development program
 - ii. Norms, policies, and funding
 - iii. Interdepartmental collaboration and communication
- g. Assessment and evaluation dimension: To evaluate** this approach, learning is required.
 - i. Rubric assessments
 - ii. Portfolio assessments
 - iii. Reflective assessments

3. Multidisciplinary Approach in the Context of NEP 2020

The National Education Policy (NEP) 2020 has introduced significant changes to the Indian education system, particularly in higher education. Here are some key features of the multidisciplinary approach in higher education, as outlined in the NEP 2020.

a. Holistic and Flexible Curriculum:

- i. Combinations of literature, humanities, sciences, social sciences, and technical or vocational subjects
- ii. Flexible to choose a subject based on interest.

Multiple Entry and Exit System in higher education:

- i. Flexible for learners to take a break and re-enter at different stages with a recognition certificate, diploma or degree.
- ii. Enrich lifelong and cross-disciplinary learning.

a. Promote Multidisciplinary in higher education institutions (HEIs):

- i. NEP 2020 ensures that all HEIs will be reformed into multidisciplinary institutions by 2040.
- ii. Reform the colleges and promote institutional integration.

b. Academic Bank of Credits (ABC):

Students can accumulate credits earned from different recognized Higher Education Institutions (HEIs)

These credits can be transferred and counted towards the final degree, diploma, or certificate.

Emphasis on Research and Innovation:

- i. Introduce the National Research Foundation (NRF) to promote multidisciplinary and cutting-edge research.

- ii. Promote research that combines disciplines such as bioinformatics and digital humanities.

Some crucial challenges in the implementation of a multidisciplinary approach in higher education:

- i. Lack of faculty development training in multidisciplinary pedagogy.
- ii. Difficulties in Curriculum construction for multidisciplinary subjects.
- iii. Insufficient infrastructure and policy support in colleges and universities.
- iv. Resistance from traditional subject departments.

4. Conclusion

The multidisciplinary approach is a necessary and progressive transformation in higher education; it aligns with the rapid changes of our time. As noted throughout this paper, combining disciplines provides students with an enriched educational experience, promotes critical and creative thinking, and prepares them to address the complexities of the real world. The concept of multidisciplinary knowledge has evolved over time, including in ancient philosophical traditions, the Renaissance, and the Enlightenment, all of which have impacted how we construct and apply knowledge. NEP 2020 has been a visionary initiative by the government to introduce multidisciplinary education at the national level and to provide a framework for breaking down the longstanding silos of traditional subject boundaries and developing a learning environment in which students can explore, combine, and apply knowledge from multiple domains. A key element of the envisioned higher education system is that it be holistic, flexible, inclusive, and centered on students' needs. Steps taken towards realizing this vision, such as the Academic Bank of Credit (ABC), multiple entry/exit points, and the NRF (National Research Foundation) for promoting research and innovation, represent a number of important steps toward realizing the vision of a multidisciplinary education.

In summary, multidisciplinary approaches will be a central component of preparing students for their future roles as members of society, and NEP 2020 provides a strong foundation for this transformation. While it recognizes that separate disciplines alone will not address the most serious problems of the 21st century, it emphasizes the need for multidisciplinary approaches to achieve its vision of a knowledge-based economy. As India seeks to become a "knowledge superpower," incorporating multidisciplinary education into the curriculum will not only benefit individual learners but also contribute to the nation's growth through innovation and international competitiveness. Therefore, a cooperative relationship among educators, policymakers, institutions, and students is required to successfully embed multidisciplinary thinking at the core of Indian higher education.

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