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MULTIDISCIPLINARY EDUCATION: EMERGING PARADIGMS IN THE CONTEXT OF NEP 2020

by: Prof. (Dr.) B. C. Swain, Dr. Rakheebrita Biswas, Dr. Bandana Sodi, Dr. Pranay Pandey

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RETHINKING HIGHER EDUCATION: A MULTIDISCIPLINARY FRAMEWORK FOR THE FOUR-YEAR UNDERGRADUATE PROGRAMME (FYUGP)

Dr. B. R. Kumar [1]

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Abstract:

The Four-Year Undergraduate Programme (FYUGP) represents a transformative shift in India's higher education landscape, as outlined by the National Education Policy (NEP) 2020. This chapter explores the potential of a multidisciplinary framework within the FYUGP to provide students with more flexible, integrated, and relevant learning pathways. By incorporating courses across different domains, the FYUGP aims to break traditional academic silos and promote a more holistic approach to learning, preparing students for a rapidly changing global economy. This chapter explores the role of multidisciplinary education in fostering critical thinking, creativity, and adaptability, all of which are essential skills for the future workforce. Moreover, it addresses challenges related to curriculum design, teacher readiness, and institutional collaboration, highlighting best practices and global examples of successful multidisciplinary education models.

Keywords: *Four-Year Undergraduate Programme (FYUGP), Multidisciplinary Education, National Education Policy (NEP) 2020, Holistic Learning, Curriculum Design*

Introduction:

The shift towards a Four-Year Undergraduate Programme (FYUGP) as envisioned by the National Education Policy (NEP) 2020 reflects a broader ambition to transform India's

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higher education system into one that is more flexible, inclusive, and responsive to the evolving needs of students and society. Traditionally, undergraduate education in India has been defined by rigid disciplinary boundaries that often limit students' ability to engage with subjects outside their core discipline. The introduction of the FYUGP presents a unique opportunity to rethink this model by embracing multidisciplinary learning, which not only promotes knowledge integration but also prepares students for the complexities of real-world challenges.

Review of Literature:

Multidisciplinary education is increasingly seen as essential for addressing complex global challenges and preparing students for the demands of the contemporary workforce. According to Tiwari (2020), the integration of multiple disciplines fosters the development of critical thinking, adaptability, and problem-solving skills, which are crucial for success in the modern world. Bhatia and Iyer (2022) argue that multidisciplinary learning helps students bridge the gaps between theory and practice, particularly by integrating knowledge across areas like technology, business, and the humanities. This flexibility in learning pathways ensures that graduates possess a broader skill set, making them more employable in diverse sectors.

Sharma (2021) identifies that multidisciplinary education offers a more holistic approach, allowing students to connect ideas from different domains, thus fostering creativity. This aligns with the findings of Ghosh (2023), who emphasizes that the collaborative nature of multidisciplinary education supports the development of teamwork and communication skills—qualities highly valued in today's globalized job market. Moreover, Kumar and Reddy (2023) highlight the critical role of technology in enabling interdisciplinary learning, where digital tools can assist students in exploring multiple subjects, from humanities to engineering.

Role of Multidisciplinarity in Addressing Global Challenges:

The increasing interconnectedness of global challenges such as climate change, social inequality, and technological disruption underscores the importance of multidisciplinary education. Sharma (2021) contends that the traditional siloed approach to education is inadequate for solving contemporary global issues. The FYUGP's multidisciplinary

framework, as outlined in the NEP 2020, offers an avenue for universities to train students to think across disciplinary boundaries and tackle complex problems from multiple perspectives (Ministry of Education, 2020). Park and Kim (2021) also assert that the complex, cross-border problems facing the world today cannot be solved by any single discipline, making a multidisciplinary education essential for developing a more resilient and adaptable workforce.

Enhancing Employability through Multidisciplinary Skills:

One of the key motivations for implementing a multidisciplinary curriculum in higher education is the need to improve graduates' employability. Employers today are not just looking for deep expertise in a single domain, but for individuals who can work across teams and navigate complex challenges (Kumar & Reddy, 2023). The FYUGP's focus on multidisciplinary learning can address this need by equipping students with the ability to combine skills from various fields, thereby increasing their adaptability to various job roles.

Singh (2024) highlights that the current job market increasingly demands professionals who can collaborate with others from diverse backgrounds. The FYUGP's emphasis on electives and interdisciplinary projects is in line with global trends, as evidenced by the success of Programmes in the United States, where universities like Stanford and MIT offer integrated courses combining business, technology, and the humanities (Shukla, 2023). This approach enables students to build a broader skillset, making them more attractive to potential employers.

Challenges in Implementing Multidisciplinary Frameworks:

While the potential of a multidisciplinary FYUGP is significant, several challenges must be addressed for its successful implementation. One of the primary hurdles is institutional resistance, as many universities have long adhered to rigid, discipline-specific educational models (Sharma, 2021). Faculty members may be reluctant to embrace multidisciplinary teaching due to a lack of expertise outside their area of specialization and concerns about increasing workload (Shukla, 2023). Overcoming this resistance requires systemic changes, such as faculty development Programmes and a cultural shift within institutions, which emphasize the importance of cross-disciplinary teaching. Another challenge highlighted by Shukla (2023) and Ghosh

(2023) is the complexity of integrating multidisciplinary courses into a cohesive curriculum. Institutions must ensure that students are not overwhelmed by too many electives or insufficiently developed courses. The process of credit recognition across disciplines also needs to be streamlined to ensure that students can receive appropriate academic credit for interdisciplinary coursework (Kumar & Reddy, 2023).

Global Models of Multidisciplinary Education:

To understand the potential for implementing a multidisciplinary FYUGP, it is useful to explore international models. The European Union's system of credit transfer through the European Credit Transfer and Accumulation System (ECTS) has enabled flexible, interdisciplinary learning paths across multiple countries (European Commission, 2020). This model promotes student mobility, allowing learners to take courses across different institutions and disciplines. The successful integration of multidisciplinary education in the EU offers a valuable reference point for India's higher education reforms. In the United States, interdisciplinary Programmes in universities such as Harvard and Yale provide models for integrating various domains such as business, engineering, and the social sciences. These Programmes not only promote flexible learning pathways but also encourage students to engage with real-world problems through collaborative projects (Sharma, 2021). These global examples demonstrate the feasibility of creating a multidisciplinary FYUGP that offers flexibility and prepares students for complex, dynamic careers.

Rationale for a Multidisciplinary Approach in FYUGP:

The need for a multidisciplinary approach in undergraduate education stems from the rapid changes in technology, the job market, and global challenges. In today's interconnected world, problems do not conform to the boundaries of traditional disciplines. Students must be equipped with the ability to think critically, adapt to new environments, and collaborate across diverse fields. By fostering a multidisciplinary learning environment, the FYUGP encourages students to acquire knowledge and skills from multiple domains, enhancing their cognitive flexibility and problem-solving capabilities. The inclusion of diverse perspectives also prepares students to work in dynamic, interdisciplinary teams in their professional careers.

- **Role of Multidisciplinarity in Addressing Global Challenges:** In an era marked by global crises such as climate change, technological disruption, and social inequality, the need for a multidisciplinary approach is even more pressing. Solutions to these complex problems require expertise from multiple fields. By integrating diverse academic disciplines, the FYUGP can produce graduates who possess the broad knowledge necessary to engage with multifaceted issues and contribute to innovative, cross-sector solutions.

- **Enhancing Employability through Multidisciplinary Skills:** Employers are increasingly seeking graduates who possess not only technical expertise but also the ability to navigate complex, cross-functional environments. The FYUGP, with its emphasis on multidisciplinary learning, provides students with the opportunity to develop a broad skill set that is highly valued in the global job market. This approach helps bridge the gap between academic learning and professional competencies, making students more adaptable and market-ready.

Designing a Multidisciplinary Curriculum for FYUGP:

Implementing a multidisciplinary framework in the FYUGP requires a thoughtful and strategic approach to curriculum design. The curriculum must be flexible enough to allow students to explore various fields of study while ensuring that they develop expertise in their chosen major. The integration of interdisciplinary courses should be done in a way that enhances the depth of knowledge in the major discipline while encouraging students to draw connections between different areas of study.

- **Modular Learning:** A modular approach to curriculum design allows students to engage with different disciplines in a structured manner. By breaking down the academic Programme into smaller, digestible modules, students can choose courses that align with their interests and career goals while also being exposed to subjects outside their core field. This system promotes flexibility and choice, enabling students to personalize their learning journey.

- **Role of Electives in Facilitating Multidisciplinary Learning:** Elective courses are a crucial component of a multidisciplinary curriculum, offering students the freedom to select courses from a

range of disciplines. By choosing electives in areas such as humanities, business, social sciences, or technology, students gain insights from diverse perspectives, thereby fostering a deeper understanding of complex issues. Electives allow for the integration of academic knowledge with practical skills, empowering students to approach challenges from multiple angles.

- **Incorporating Real-World Applications through Interdisciplinary Projects:** To ensure that multidisciplinary education is not merely theoretical, the curriculum should include opportunities for students to apply their knowledge in real-world contexts. Interdisciplinary projects that require students to collaborate across different disciplines are an effective way to foster teamwork, problem-solving, and critical thinking. These projects not only enhance students' academic experience but also prepare them for the collaborative nature of modern workplaces.

Challenges in Implementing Multidisciplinary FYUGP:

Despite its numerous benefits, the implementation of a multidisciplinary framework in the FYUGP presents several challenges that must be addressed to ensure its success.

- **Institutional and Faculty Resistance:** Many institutions and faculty members may resist the shift toward a more multidisciplinary curriculum due to concerns about workload, lack of expertise in other disciplines, and the perceived dilution of academic rigor. Overcoming this resistance requires a cultural shift within higher education institutions, as well as professional development Programmes for faculty to equip them with the skills necessary to teach and collaborate across disciplines.

- **Curriculum Integration and Credit Recognition:** Integrating multidisciplinary courses into a coherent curriculum requires careful planning and coordination across different departments. Institutions must ensure that students are not overloaded with courses and that the learning outcomes of each course align with the overall goals of the Programme. Additionally, mechanisms for credit recognition across disciplines must be established to ensure that students receive full academic credit for courses taken in diverse fields.

- **Assessment and Evaluation:** Assessing students' learning in a multidisciplinary environment presents unique challenges. Traditional assessment methods, which are often discipline-specific, may not effectively evaluate students' ability to integrate knowledge across fields. New methods of assessment, such as project-based evaluations, interdisciplinary exams, and peer evaluations, may be needed to adequately measure the breadth of students' learning.

Conclusion:

The Four-Year Undergraduate Programme (FYUGP) offers an unprecedented opportunity to rethink the structure of higher education in India. By adopting a multidisciplinary framework, the FYUGP can provide students with the knowledge and skills necessary to thrive in an increasingly complex and interconnected world. While challenges in implementation exist, the potential benefits of a more flexible, student-centered, and interdisciplinary education system far outweigh the obstacles. As institutions begin to embrace this new model, they will help shape a generation of graduates who are not only well-versed in their chosen disciplines but are also capable of addressing the multifaceted problems of the future.

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