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## Multidisciplinary Approaches to Teacher Education: An Overview

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### ABSTRACT

Multi-disciplinary approach is a unique method in teaching learning programme. It is a unique way of curriculum integration to illustrate a theme, subject or issue with the help of divergent subjects. In a multi-disciplinary curriculum, multiple disciplines are used to study the same topic or content. It is a powerful method of teaching that crosses the boundaries of a discipline or curriculum in order to enrich and enhance the subject area. This approach is very useful and relevant to integrate teacher education programme and enhance its quality acceptability. Hence, the National Education Policy 2020 has given impetus on multi-disciplinary approach in teacher education in the country. Multi-disciplinary approaches in teacher education programme will surely develop well rounded individuals that possesses critical 21<sup>st</sup> century capacities in various field of studies such as arts, science, humanities, commerce,. Social sciences, professional and vocational and other field of education. Teacher must possess almost all skills and knowledge related to enhance and enrich the classroom instruction with the help of this approach. Hence, this paper highlights different pros and cons of Multi-Disciplinary Teacher Education Programme with special reference to NEP 2020 and make relevant suggestions.

**Keywords:** Multi-Disciplinary Approach, Curriculum integration, Teacher Education, Special Education

## INTRODUCTION

A Multidisciplinary Approach to education is essential because it allows students to understand subjects comprehensively by incorporating knowledge and perspectives from various disciplines. Multidisciplinary Approach consist multiple disciplines that helps to find out the different perspectives of individuals. In this every individuals works together but each drawing their own disciplinary knowledge. Members cooperate in their contributions but do not interrogate their perspectives. Multidisciplinary approach is a form of learning that includes various subjects to provide a comprehensive educational experience. The NEP-2020 has given more emphasis on multi-disciplinary approach on the establishment of multidisciplinary education into the curriculum. This approach equip students with the necessary skills to navigate the complex challenges of todays.

Multi-disciplinary approach is defined as professionals from across different disciplines, parents and students working together to achieve the mutual goal of delivering an evidence-based educational program designed to meet individual needs and access to the general curriculum. A multidisciplinary approach involves drawing appropriately on multiple disciplines to redefine problems outside the normal boundaries. Teachers to see how knowledge is connected. This multiple disciplinary thinking, enhances a deeper grasp of complicated subjects, and gets students ready for the real world complexities.

In Multidisciplinary approach, teacher education programs opens the various opportunities particularly to the teachers and the students. Multi-disciplinary approach encourages teachers to make connections across many disciplines rather than teaching courses in isolation, It is one of the better approaches in teaching. Multi-disciplinary approach help students as well as Teachers to see how knowledge is connected. This multiple disciplinary thinking, enhances a deeper grasp complicated subjects, and gets students ready for the real world complexities.

Teacher education is pivotal in shaping the quality of education systems globally. As society evolves, so too must the methods and approaches to training educators. Traditional models of teacher education have often emphasized singular disciplinary knowledge, focusing predominantly on pedagogical skills within a specific subject area. However, the complexities of modern educational environments demand a more holistic approach—one that integrates knowledge and methodologies from multiple disciplines. This research paper explores the multidisciplinary approach to teacher education, highlighting its necessity, benefits, and implementation strategies.

The current need in teacher education is for a multidisciplinary approach. The country's ancient Gurukul educational system served as the best example of multidisciplinary education at various points in time. The Students who attended these institutions have amassed an incredible quantity of information in a variety of fields, including physics, medicine, health, yoga, meditation, history, and practically all fields of education. The guru (teacher) gives information and experience to the students for their whole development and as a result, the students are well equipped with a multidisciplinary approach.

It provides an opportunity to bridge disciplines and one can combine multiple disciplines and pursue different ways of thinking about the same problem.

### ***Rationale for a Multidisciplinary Approach***

A multidisciplinary approach involves integrating knowledge and methods from different disciplines to address complex problems or challenges. Here are several key reasons for adopting this approach:

1. **Comprehensive Understanding:** Complex problems often have multiple facets that cannot be fully understood through a single disciplinary lens. By incorporating diverse perspectives, a multidisciplinary approach ensures a more holistic understanding of the issue.
2. **Innovative Solutions:** Combining insights and techniques from various fields can lead to creative and innovative solutions that might not emerge within the confines of single discipline. This cross-pollination of ideas fosters innovation.
3. **Enhanced Problem-Solving:** Different disciplines bring unique methodologies and problem solving strategies. A multidisciplinary team can leverage these diverse methods to tackle problems more effectively and efficiently.
4. **Real World Problem Solving:** These methods are helpful in encouraging students to approach problems from different view points. They can work with other students to develop solutions, preparing them for real-world problem solving.

### **Objectives:**

- This paper is based on the following objectives. Such as
- To study about the various aspect of the multi-disciplinary approach to teacher education.
- To give a major focus on diverse perspectives of learning to illustrate a theme, concept or any issue.
- To focus on various aspects of the NEP-2020 recommended multidisciplinary approach in teacher education.
- To identify the major challenges with multidisciplinary approaches in teacher education.

A Multidisciplinary approach to education is essential because it allows students to understand subjects comprehensively by incorporating knowledge and perspectives from various differences.

### **Methodology:**

The purpose of this paper is to emphasize various aspects of multi-disciplinary approach education. The study of this paper is only depend on the available resources such as; journals, magazines, articles, books references, various perspectives of individuals.

**Discussion:**

To know the basics of multi-disciplinary education, it is necessary to understand the approaches in education such as interdisciplinary and trans-disciplinary.

Multi-disciplinary approach encourages teachers to make connections across many disciplines rather than teaching courses in isolation, enabling students to perceive the interconnection of information to get a better understanding of the world around them.

This method helps students to see how knowledge is connected, which promotes critical thinking, problem solving, and the use of knowledge in different contexts.

This develops multiple disciplinary thinking, enhances a deeper grasp of complicated subjects, and gets students ready for the real complexities of the world.

**Multidisciplinary Education & National Education Policy 2020**

With the introduction of the National Education Policy 2020, India has taken significant strides in modernizing its education system. This new approach to education aims to encourage the comprehensive development of individuals by getting into various fields of knowledge.

The NEP 2020 fully adopts this philosophy and efforts to reinforce it across all educational tiers. To achieve this goal, the policy describes several initiatives to promote a multidisciplinary approach to education.

A multidisciplinary approach enables students to examine the topics from multiple angles, encouraging them to carve out their own independent opinions and viewpoints. The NEP 2020 aims to institutionalize multidisciplinary education across all educational levels in India, making it an integral part of the mainstream curriculum. By doing so, this approach will be accessible to a broader student base, nurturing a new generation of thinkers and innovators.

**The National Education Policy 2020** With the recently announced National Education Policy 2020, India has taken a giant leap forward in its journey of modernizing its education system. This type of education aims to promote an individual's holistic development by exploring various facets of knowledge.

The NEP 2020 embraces this concept and seeks to strengthen it at all levels. To this end, the NEP outlines several measures that will help facilitate a multidisciplinary approach in education.

Firstly, it promotes interdisciplinary studies across different educational institutions. This includes collaboration between universities, colleges, research institutions, and other organizations.

Secondly, it encourages the integration of traditional Indian knowledge systems into modern curricula. This helps enrich the learning experience by providing students with a more holistic view of different topics.

Finally, the NEP encourages the development of courses and programs that cover diverse disciplines like mathematics, science, arts, technology, and humanities.

Multidisciplinary education is a vital part of India's modern education system. By embracing this concept, the NEP 2020 seeks to give students access to a wider knowledge base and skills and prepare them for a rapidly changing world.

Teacher education is vital in creating a pool of schoolteachers that will shape the next generation. Teacher preparation is an activity that requires multidisciplinary perspectives and knowledge, formation of dispositions and values, and development of practice under the best mentors. Teachers must be grounded in Indian values, languages, knowledge, ethos, and traditions including tribal traditions, while also being well-versed in the latest advances in education and pedagogy.

In order to improve and reach the levels of integrity and credibility required to restore the prestige of the teaching profession, the Regulatory System shall be empowered to take stringent action against substandard and dysfunctional teacher education institutions (TEIs) that do not meet basic educational criteria, after giving one year for remedy of the breaches. By 2030, only educationally sound, multidisciplinary, and integrated teacher education programmes shall be in force.

As teacher education requires multidisciplinary inputs, and education in high-quality content as well as pedagogy, all teacher education programmes must be conducted within composite multidisciplinary institutions. To this end, all multidisciplinary universities and colleges - will aim to establish, education departments which, besides carrying out cutting-edge research in various aspects of education, will also run B.Ed. programmes, in collaboration with other departments such as psychology, philosophy, sociology, neuroscience, Indian languages, arts, music, history, literature, physical education, science and mathematics. Moreover, all stand-alone TEIs will be required to convert to multidisciplinary institutions by 2030, since they will have to offer the 4-year integrated teacher preparation programme.

In-service continuous professional development for college and university teachers will continue through the existing institutional arrangements and ongoing initiatives; these will be strengthened and substantially expanded to meet the needs of enriched teaching-learning processes for quality education. The use of technology platforms such as SWAYAM/DIKSHA for online training of teachers will be encouraged, so that standardized training programmes can be administered to large numbers of teachers within a short span of time.

A National Mission for Mentoring shall be established, with a large pool of outstanding senior/retired faculty – including those with the ability to teach in Indian languages – who

would be willing to provide short and long-term mentoring/professional support to university/college teachers.

A **multidisciplinary approach** to teaching is critical for preparing students for real world success. Students can gain a comprehensive understanding of complex issues, develop critical thinking and creativity skills, prepare for real world problem-solving, foster collaboration and teamwork skills, and stay engaged and interested in learning by integrating **multidisciplinary apteaching and learning** methods.

Multidisciplinary education is a concept that has been embraced by the Indian government through the new National Education Policy (NEP) 2020. This approach to learning looks at how different disciplines can interact and overlap with each other to create a comprehensive understanding of a subject. A multidisciplinary approach in education is often seen as the ideal way to tackle complex problems and will be essential for India's continued success in the global economy. With the NEP 2020, India is well positioned to build on its current educational system and move towards a more multidisciplinary approach.

Teachmint helps schools envision a future where their students are equipped with 21st-century skills. With our advanced learning management system, you can improve the teaching-learning experience. Our offerings like education erp, admission management system, fee management system, and others conveniently digitize educational institutions.

In conclusion, a multidisciplinary approach to teacher education offers a comprehensive framework that addresses the complexities of teaching and learning in contemporary educational settings. By integrating perspectives from various disciplines such as psychology, sociology, education, and technology, this approach enriches the preparation and professional development of educators.

One significant advantage of a multidisciplinary approach is its ability to provide a holistic understanding of the diverse factors that influence education. This includes recognizing the impact of socio-cultural contexts, understanding cognitive and emotional development, and leveraging technological advancements to enhance teaching practices. By drawing on diverse fields, teacher education programs can create more robust and adaptive curricula that prepare educators to meet the needs of all students effectively. Moreover, this approach fosters critical thinking and problem-solving skills among educators. It encourages them to view challenges from multiple angles and develop innovative solutions. For instance, understanding psychological theories can help teachers create more engaging and supportive learning environments, while insights from sociology can inform strategies for addressing educational inequities.

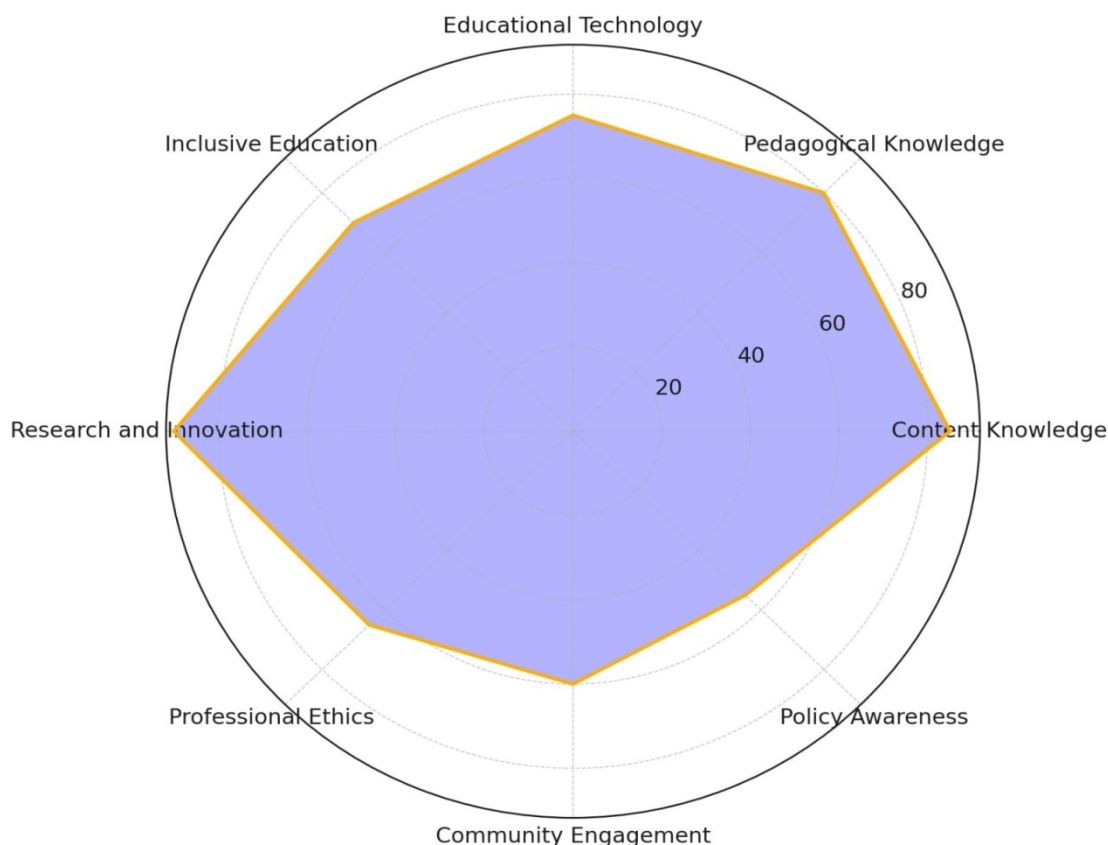
The collaborative nature of a multidisciplinary approach also promotes continuous learning and professional growth. By engaging with research and practices from various fields, educators can stay abreast of new developments and integrate best practices into their teaching. This ongoing professional development is crucial in a rapidly changing educational landscape, where new challenges and opportunities continually arise.

However, implementing a multidisciplinary approach requires careful planning and collaboration among educational institutions, policymakers, and researchers. It necessitates a commitment to ongoing dialogue and the sharing of knowledge across disciplines. Teacher education programs must also ensure that their curricula are designed to integrate these diverse perspectives meaningfully and coherently.

In summary, a multidisciplinary approach to teacher education is essential for preparing educators to navigate the complexities of modern classrooms. By embracing this approach, teacher education programs can equip educators with the knowledge, skills, and dispositions necessary to foster effective, inclusive, and innovative teaching practices. As education continues to evolve, the adoption of a multidisciplinary perspective will be pivotal in ensuring that teachers are well-prepared to inspire and support the next generation of learners.

The National Education Policy (NEP) 2020 emphasizes a multidisciplinary approach to teacher education. Here's a chart outlining the key components of this approach:

Multidisciplinary Approach to Teacher Education (NEP 2020)



Here's a radar chart showing a multidisciplinary approach to teacher education according to NEP 2020. This visualization represents various categories and their relative emphasis in the context of teacher education reforms.

### Advantages of Multi-disciplinary approach in teacher education:

The multi-disciplinary approach in education provides more holistic understanding of the world and enhances the child's personality, and growing process. The real complexities of the world and real social values will be adopted by this approach. This approach highlights the integration of knowledge and information. This approach helps to build the the new ideas and concepts. This approach helps students to build the managerial and corporative skills and techniques. This approach also enhances the thinking and analyzing power in them. It also helps students to choose option from the divergent field of knowledge and subjects.

**1.Holistic Understanding of Education:** A multidisciplinary approach provides a comprehensive understanding of the various factors influencing education. By integrating insights from psychology, sociology, anthropology, and other fields, teacher education programs can offer a more nuanced view of student development, learning processes, and classroom dynamics. This holistic perspective enables educators to address the diverse needs of students more effectively.

**2. Enhanced Problem-Solving Skills:** Exposure to multiple disciplines equips educators with a diverse toolkit for addressing challenges. Understanding different theoretical frameworks and methodologies allows teachers to approach problems from various angles, fostering creativity and innovation in problem-solving. This adaptability is crucial for developing effective strategies to meet the unique needs of each student and classroom.

**3. Improved Teaching Practices:** By incorporating best practices from various disciplines, a multidisciplinary approach can enhance teaching methodologies. For instance, insights from cognitive science can inform instructional strategies that align with how students learn best, while knowledge from sociology can help teachers understand and address issues of equity and inclusion. This integration leads to more effective and inclusive teaching practices.

**4. Comprehensive Professional Development:** A multidisciplinary approach supports continuous professional growth by encouraging educators to engage with ongoing research and advancements across fields. This continuous learning helps teachers stay current with new educational trends, technologies, and methodologies, ultimately improving their effectiveness and adaptability in the classroom.

**5. Better Understanding of Diverse Learners:** Incorporating multiple perspectives helps teachers better understand and meet the needs of diverse student populations. For example, psychological theories can provide insights into individual learning differences, while sociological research can shed light on the impact of cultural and socioeconomic factors on student achievement. This deeper understanding promotes more equitable and responsive teaching practices.

**6. Collaboration and Interdisciplinary Learning:** A multidisciplinary approach fosters collaboration among educators, researchers, and practitioners from various fields. This collaboration enhances the sharing of knowledge and best practices, leading to more

comprehensive and innovative solutions to educational challenges. It also helps create a professional community that values diverse perspectives and continuous improvement.

**7. Integration of Technology and Innovation:** Technology plays a significant role in modern education, and a multidisciplinary approach ensures that teacher education programs integrate technological advancements effectively. Insights from fields like educational technology and digital media can help educators leverage tools and platforms to enhance teaching and learning experiences, preparing them for the digital age.

**8. Development of Critical Thinking:** Engaging with multiple disciplines encourages educators to think critically and reflectively about their teaching practices. This critical thinking helps teachers evaluate and adapt different theories and strategies to their specific contexts, leading to more thoughtful and effective instruction.

**9. Addressing Complex Educational Issues:** Many educational issues, such as achievement gaps, student motivation, and classroom management, are multifaceted and require comprehensive solutions. A multidisciplinary approach enables educators to draw on various perspectives to understand and address these complex issues more effectively, leading to better outcomes for students.

**10. Preparation for Leadership Roles:** Educators who are trained through a multidisciplinary approach are better prepared for leadership roles within their schools and communities. Their broad knowledge base and diverse skill set enable them to advocate for comprehensive educational reforms and to mentor and support their colleagues in implementing best practices.

Incorporating a multidisciplinary approach in teacher education programs offers numerous advantages, from enhancing teaching practices to fostering continuous professional growth. By embracing diverse perspectives and methodologies, educators can develop the knowledge, skills, and dispositions necessary to navigate the complexities of modern education and to support the success of all students.

### **Challenges of Implementing the Multidisciplinary Approach:**

**1.Distractions:** Honestly, getting distracted from the final learning goal may become prevalent with multicultural education. By this approach, the students may get a bit confused because of a variety of options. The only thing that can save from getting distracted is planning & keeping a tab on their daily activities.

**2.Curricular Constraints-** Traditional educational systems are often organized around specific disciplines, making it challenging to integrate multidisciplinary approaches into existing curricula.

**3.Assessments Methods-** Assessing student learning and performance in multidisciplinary contexts can be complex, as traditional assessments methods may not capture the full range of skills and knowledge acquired through interdisciplinary approaches.

## Conclusions:

A **multidisciplinary approach** to teaching is critical for preparing students for real world success. Students can gain a comprehensive understanding of complex issues, develop critical thinking and creativity skills, prepare for real world problem-solving, foster collaboration and teamwork skills, and stay engaged and interested in learning by integrating **multidisciplinary teaching and learning** methods.

In conclusion, the multidisciplinary approach to teacher education offers valuable benefits, such as flexibility, diverse perspectives, and personalized learning experiences. However, educators must address challenges related to distractions and curricular constraints to effectively implement this approach.

A multidisciplinary approach to teacher education offers numerous advantages by integrating knowledge and methodologies from various disciplines. This holistic strategy fosters well-rounded educators who are better equipped to address the diverse needs of their students. Here are some key conclusions drawn from this approach:

1. **Enhanced Pedagogical Skills:** Teachers trained through a multidisciplinary approach gain a richer set of pedagogical strategies, enabling them to create more engaging and effective learning environments. They can draw on insights from psychology, sociology, and educational theory to better understand student behavior and learning processes.
2. **Improved Problem-Solving Abilities:** Exposure to different disciplines helps teachers develop critical thinking and problem-solving skills. They can approach educational challenges from multiple perspectives, finding innovative solutions that might not be evident within a single-discipline framework.
3. **Cultural Competence and Inclusivity:** A multidisciplinary education often includes studies in cultural and social contexts, making teachers more aware of and sensitive to the diverse backgrounds of their students. This awareness promotes inclusivity and helps create a more equitable educational environment.
4. **Adaptability and Lifelong Learning:** Teachers trained in a multidisciplinary setting are more adaptable to changes in educational standards and practices. They are better prepared for continuous professional development and lifelong learning, which are essential in the ever-evolving field of education.
5. **Collaborative Skills\*:** By working within a multidisciplinary framework, teachers learn to collaborate with professionals from various fields. This ability is crucial for effective teamwork within schools and for engaging with external stakeholders such as parents, community organizations, and educational authorities.
6. **Research and Evidence-Based Practice:** A multidisciplinary approach often emphasizes the importance of research and evidence-based practices. Teachers become skilled at evaluating educational research and applying it to their teaching, which can lead to improved student outcomes.

In conclusion, a multidisciplinary approach to teacher education not only enhances the skills and competencies of teachers but also significantly benefits students by creating a more dynamic, inclusive, and effective educational environment. This approach equips teachers to meet the complex demands of modern education and fosters a culture of continuous improvement and innovation.

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