

EXPLORING HOLISTIC DEVELOPMENT THROUGH MULTIDISCIPLINARY EDUCATION IN THE LENS OF NEP-2020

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Abstract: Today the Multidisciplinary education is an approach that incorporates knowledge, methods, and perspectives from different disciplines to provide holistic learning experiences. In the twenty-first century, we show the changes in the field of technological advancement, globalization, and complex social challenges have increased the importance of multidisciplinary learning in schools and higher education institutions. The National Education Policy (NEP) 2020 in India strongly emphasizes holistic and multidisciplinary education to develop critical thinking, creativity, communication, and problem-solving skills among learners. This chapter explored meaning and concept, definition, historical background, objectives, characteristics, importance, major provision of NEP-2020, the role of technology of multidisciplinary education. It also explored the role of skill development in the multidisciplinary education, sustainable development and multidisciplinary education. Furthermore, the chapter highlights the relevance of multidisciplinary education in the Indian context. The conclusion is highlighted through the multidisciplinary education is essential for creating innovative, socially responsible, and globally competent citizens.

Introduction

Education is important in the development of human life and socialization. In the traditional education system, subjects were dealt with in a compartmentalized way, e.g., science, arts, commerce and vocational courses. But today's society demands people who can think critically, be able to solve problems in real life, combine knowledge from various branches of knowledge. So it is important to develop the concept of multidisciplinary education in modern education systems.

Multidisciplinary education is an educational method which involves the learning of knowledge from various subjects that are combined together to solve a problem. It enables students to learn in the context of subjects relating to different disciplines and relate them meaningfully. In some cases, environmental studies can be interdisciplinary, such as the blending of science, geography, economics, political science and sociology. Similarly, artificial intelligence demands knowledge of computer science, mathematics, ethics, psychology and communication.

The idea of multidisciplinary learning is not new. Ancient Indian Universities like Takshashila and Nalanda encouraged the students to learn all subjects together, like philosophy, medicine, mathematics, astronomy, arts and literature. The present educational reforms, particularly the National Education Policy (NEP) 2020, are trying to restore India's holistic educational paradigm. Multidisciplinary education is regarded as a must today for training students to face the reality of the globalized world. It builds students' creative, flexible, innovative, co-operative and life-long learning abilities. Worldwide, education structures are being restructured to foster interdisciplinary and multidisciplinary learning experiences.

Meaning and Concept of Multidisciplinary Education

Multidisciplinary education is a learning approach that combines knowledge, concepts, methods, and perspectives from different disciplines to study a topic or solve a problem. In this system, subjects are not taught in isolation; rather, they are interconnected to provide comprehensive understanding.

The Government of India under NEP 2020 defines multidisciplinary education as an approach that develops intellectual, social, emotional, physical, and moral capacities in an integrated manner.

Education Government of India in multidisciplinary learning

- Different disciplines contribute independently to a common theme.
- Students gain exposure to diverse areas of knowledge.
- Learning becomes holistic and application-oriented.
- Real-life problems are studied from multiple perspectives.

For example

Climate change involves science, economics, politics, sociology, and environmental ethics.

Public health requires knowledge of medicine, psychology, statistics, and social work.

Business management involves economics, communication, technology, and mathematics.

Thus, multidisciplinary education aims to remove rigid boundaries between subjects and encourage flexible learning.

Definitions of Multidisciplinary Education

Various scholars and educational organizations have defined multidisciplinary education in different ways. According to UNESCO, multidisciplinary education involves the integration of multiple subjects while maintaining their distinct disciplinary identities. NEP 2020 describes multidisciplinary education as a holistic approach that enables students to study sciences, arts, humanities, sports, and vocational subjects together for overall personality development. Walia (2023) stated that multidisciplinary education develops critical thinking, communication, teamwork, and problem-solving skills necessary for workplace success. These definitions indicate that multidisciplinary education promotes integrated learning experiences for comprehensive human development.

Historical Background of Multidisciplinary Education

The concept of multidisciplinary education originated from ancient times. The education in ancient India was holistic in nature. Nalanda and Takshashila universities provided education on a wide range of subjects, including medicine, astronomy, philosophy, arts, mathematics and literature.

Broad-Based Education for intellectual and moral development was also encouraged by the ancient Greek philosophers, Plato and Aristotle. In the Renaissance, the focus of education was on liberal arts and scientific exploration. but during the Industrial Revolution, education systems became quite specialised in order to cater to the needs of the industry. The subjects were split into individual disciplines which resulted in compartmentalisation of learning.

In the twentieth century, thinkers in education like John Dewey, stressed experiential and integrated learning. The interdisciplinary solutions were further accentuated by the globalization of the modern world, the development of new technologies, and social problems.

The starting exploration of the introduction of national education policy 2020 in our country has marked a very significant role toward promoting holistic education and multidisciplinary education. Various recommendation by the policy includes academic bank of credit, multiple entry exit, flexible curricula, multidisciplinary universities.

Objectives of Multidisciplinary Education

The major objectives of multidisciplinary education are:

- To promote holistic development of learners.
- It aims at intellectual, emotional, social, physical, and moral growth.
- To develop critical thinking skills.
- Students learn to analyze problems from different perspectives.
- To encourage creativity and innovation.
- Exposure to diverse subjects enhances imagination and originality.
- To improve problem-solving abilities.
- Real-world problems require integrated knowledge from multiple disciplines.
- To enhance communication and collaboration.
- Students learn teamwork and interpersonal skills.
- To provide flexible learning opportunities.
- Learners can choose subjects according to their interests and career goals.
- To prepare students for modern careers.
- Contemporary professions require multidimensional skills and adaptability.

Characteristics of Multidisciplinary Education

1. Holistic Learning

Multidisciplinary education is education that emphasizes student development and more than just their academic achievement. Fosters the intellectual, emotional, social and moral growth of learners. Through this activity, the balanced personality and responsible citizens are created.

2. Integration of Subjects

Different subjects are connected to provide a better understanding of concepts and real-life situations. Students are taught the connections between knowledge from one discipline to another. This integration can help in the learning process become more meaningful and practical.

3. Flexibility in Curriculum

Learners have the freedom to select their interests and career path. This is flexibility and promotes self-directed learning. It also encourages learners to develop more than one skill.

4. Student Centred Learning

Multidisciplinary education is an education-based learning system that makes the learners the main body of teaching and learning. Teachers lead and instruct students based on their needs, interests and abilities. This is a strategy to foster active involvement, creativity and confidence in learners.

5. Problem Based Learning

Use of real-life examples to enhance practical understanding as part of learning. Students use information from a variety of disciplines to solve problems and to make appropriate decisions. This approach promotes critical thinking and decision making.

6. Collaborative Learning

Students collaborate in groups to complete projects, discussions and activities. The benefits of collaborative learning are that it enhances communication, teamwork, and leadership skills. It also contributes to students' tolerance of diverse opinion and perspectives.

7. Skill Development

The students acquire basic life and working skills through multidisciplinary education. These are the skills that are generally considered to be: communication, creativity, critical thinking, leadership, and technological competence. These skills are necessary to thrive in today's society.

8. Application Oriented Approach

This is a method of relating classroom learning to real life situations. Students are taught to apply theory and develop solutions to real life problems. It enhances education's usability, relevance and effectiveness.

Importance of Multidisciplinary Education

1. Development of Critical Thinking

Pupils are taught to analyse and critically consider problems from various angles and to apply logical thinking. This enhances their thinking skills, problem-solving and decision-making abilities. Learners are also able to solve complex problems well by applying critical thinking.

2. Promotion of Creativity

Students are exposed to several disciplines which promotes innovative and creative thinking. Learners synthesize concepts and solutions across subjects to develop new solutions and concepts. This encourages creativity and ingenuity.

3. Better Problem Solving

To solve the problems of the modern world, we need to know things from the different fields. The multidisciplinary training enables students to grasp the essence of the issues and find practical solutions. It equips learners to meet the challenges of life in the real world successfully.

4. Improvement of Employability

In today's industries, employees who are versatile and skilled in a variety of areas are preferred. Multidisciplinary education is a training that supports students in various careers and responsibilities. It expands the career opportunities and professional skills.

5. Holistic Personality Development

This will help students grow in their intellectual, emotional, social and moral development. Confidence, empathy, leadership and social responsibility are developed by the learners. It assists in developing and nurturing a positive and healthy personality.

6. Encouragement of Research and Innovation

Multidisciplinary learning encourages co-operation and the sharing of ideas between disciplines. It fosters students to research and come up with new solutions. There are numerous scientific and technological breakthroughs that can be achieved as a result of cross-disciplinary collaboration.

7. Social Awareness

Pupils are increasingly made aware of cultural differences, environmental issues and social responsibilities. They develop the values of equality, sustainability and community good. This awareness helps in creating responsible citizens.

8. Lifelong Learning

Multidisciplinary education helps develop curiosity and interest in continuing education. Students are flexible with new knowledge and new tools. Lifelong learning is a habit that is necessary for acquiring personal and professional knowledge.

Multidisciplinary Education and NEP 2020

The National Education Policy (NEP) 2020 emphatically promotes the multidisciplinary and holistic education in India. The policy seeks to change the system of education by eliminating the artificial barriers between the arts, sciences, commerce and the vocational pathway.

Major Provisions of NEP 2020

1. Flexible Curriculum

With the introduction of NEP 2020, students can select subjects from various stream based on their interests and career goals. This flexibility eradicates the barriers between arts, science and commerce courses. It fosters creativity, freedom and all round learning.

2. Multiple Entry and Exit System

It is proper for students to enter and leave higher education programs without losing academic progress. Awards are made in the form of certificates, diplomas and degrees based on the length of time studied. This system is an enabling system for lifelong education and flexibility in education. Coursework based on a system of academic bank of credits.

3. Academic Bank of Credits (ABC)

Students' academic credits are digitally recorded in the Academic Bank of Credits. To allow for easy transfer of credits from one institution to another, to continue studies easily. It facilitates the mobility and flexibility of higher education.

4. Multidisciplinary Universities

NEP 2020 is promoting the transformation of higher education institutions to become multidisciplinary. It is expected that Universities have subjects of different fields in a single campus. This will enhance the overall learning and research experiences.

5. Holistic Development

The policy is based on learners' cognitive, emotional, ethical, social and physical development. Another aspect of education is not just about grades. Its goal is to produce responsible and balanced citizens.

6. The integration of Vocational Education

Vocational education is embedded in mainstream education at school level. Pupils learn both theoretical knowledge and practical skills. This enhances their employability and skill development.

7. Promotion of Research

NEP promotes interdisciplinary and interdisciplinary research within educational institutes. Research culture is strengthened through innovation and collaboration. This helps in producing new knowledge and technological advancement.

8. Use of Technology

Technology facilitates flexible, accessible and effective learning. Multidisciplinary learning is facilitated by digital platforms, online learning and virtual classrooms. The policy is designed to educate pupils for the 21st century digital skills.

The Role of Technology in Multidisciplinary Education

1. Online Learning Platforms

Digital learning platforms offer access to courses across various disciplines and institutions. Students are able to study their interests in a variety of subjects. This means more flexibility and access in education.

2. Virtual Classrooms

Virtual classrooms are online platforms that unify students and teachers in a space for interaction. Learners will be able to engage in discussions, projects, and collaborative learning tasks. This helps to promote learning opportunities around the world.

3. Artificial Intelligence

AI educational tools customise learning based on the needs and abilities of learners. The technologies are useful for assessment, feedback, and adaptive learning. AI boosts the effectiveness of learning.

4. Digital Libraries

Digital libraries offer quick availability of books, journals and research content from various areas. Students have the opportunity to get information for research and study. This builds knowledge and learning in the classroom.

5. Multimedia Learning

Learning is more interactive, interesting and engaging through videos, animations, simulations and presentations. Students have a better understanding of difficult concepts with the help of multimedia tools. They also help to enhance attention and participation in classrooms.

6. Collaborative Tools

Platforms like Google Classroom and Microsoft Teams promote collaboration and communication among students and teachers. The tools are used to facilitate project-based and group learning. The use of technology allows for flexible, collaborative education across disciplines.

Multidisciplinary Education and Skill Development

1. Communication Skills

Students acquire effective oral, written and interpersonal communication skills. Use of group work and discussion promotes expression and confidence. Communication skills are important for academic and professional success.

2. Critical Thinking

Integrated learning promotes students to think critically on issues from diverse perspectives. This enhances reasoning, decision making and problem solving skills. Critical thinking enables learners to approach complex challenges successfully.

3. Digital Literacy

Technology based learning enhances the students' digital skills and technical knowledge. Learners are introduced to online platforms, digital tools and virtual resources. It is critical to be digitally literate in the current world.

4. Leadership Skills

Through collaborative projects and teamwork activities, leadership is developed among students. Learners become more comfortable in taking on duties and leading others. Leadership skills foster individual and professional development.

5. Entrepreneurial Skills

Students are taught the concepts of innovation, creativity and business management. The multidisciplinary learning approach promotes entrepreneurial thinking and risk-taking skills. These skills help in creating employment opportunities.

6. Problem Solving Skills

Know-how and decision making skills are enhanced through real-life tasks and interdisciplinary-based projects. Students are able to solve real-life problems. These skills are essential for functioning in a flexible workplace.

Multidisciplinary Education and Sustainable Development

1. Environmental Awareness

The student grasps scientific, social and ethical issues surrounding the environment. They are informed about the theme of climate change, pollution and conservation. This awareness promotes sustainable lifestyle and protection of the environment.

2. Social Responsibility

Students are educated in empathetic, ethical, and civic ways. Students develop an increased awareness of the social issues and the good of the community. This will aid in the development of good citizens.

3. Economic Development

Multidisciplinary education is an education that produces skilled and knowledgeable human resources. Professional people help a country to grow, innovate and be productive. Education is a key factor in economic development.

4. Global Citizenship

Pupils are made aware of issues around the world, difference and international cooperation. They develop tolerance, respect and intercultural awareness. This will foster peace and unity for the world.

5. Sustainable Solutions

Integrated knowledge supports students to respond to issues like poverty, inequality and climate change. Multidisciplinary approach promotes innovative and sustainable solutions. Multidisciplinary education is firmly advocated by UNESCO as one of the education solutions for Sustainable Development Goals (SDGs).

Multidisciplinary Education in Indian Context

The concept of holistic education is a legacy in India. The traditional educational systems stressed 'all-in-one' learning. Later, though, with colonies and industry, there were the rigid disciplinary divisions. The NEP 2020 has the goal of resurrecting the Indian learning model which encompasses learning through a holistic perspective while keeping it in synchronize with international education standards.

Indian universities are gradually introducing

- Choice Based Credit System (CBCS)
- NEP-2020, New curriculum

- Holistic development
- Skill-based courses
- Liberal arts programs
- Research-oriented learning
- Vocational integration
- Online and blended learning

Conclusion

Multidisciplinary education is a necessary method to solve problems of the modern world. It encourages learners to develop their whole person, creative, critical, collaborative and problem-solving abilities. Education is more meaningful, flexible and relevant to real-life situations by the integration of knowledge from different disciplines. The National Education Policy 2020 has offered ample guidance for getting multidisciplinary education implemented in India. The policy seeks to change the existing education system into learning-centred education systems that promote innovation and lifelong learning. Multidisciplinary learning is not only an educational reform of the twenty-first century, but it is required for sustainable development, employability, and global citizenship. Stakeholders in education – including schools, teachers, policy makers and society – need to collaborate to ensure that learners are ready for the future in a comprehensive learning environment.

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