

Implementation and Outcomes of Vocational Education in Senior Secondary Schools under NEP 2020

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ABSTRACT

This study explores the implementation and outcomes of vocational education in senior secondary schools under the National Education Policy (NEP) 2020. It assesses awareness, effectiveness, and perceptions of stakeholder through surveys of students, parents, and teachers. Findings indicate strong support for vocational education and recognition of its importance in career readiness. However, challenges such as inadequate infrastructure, limited practical exposure, and insufficient teacher training affect its overall impact. The policy framework requires systematic improvements to ensure that students gain both relevant skills and confidence to pursue real-world opportunities in the evolving job market.

Keywords: Vocational Education, NEP 2020, Practical Training, Skill Development, Senior Secondary Schools

Historically, vocational education in India has often been perceived as a secondary and less prestigious path compared to academic education. However, with the National Education Policy (NEP) 2020, a transformative shift has been initiated to reimagine vocational education as a central component of mainstream education. As outlined in NEP 2020, vocational education is the process of imparting practical skills and occupation-related knowledge to students, promoting hands-on training and career-based learning for employment readiness. To oversee quality and regulatory standards, the National Council for Vocational Education and Training has been employed for coordinating vocational training across the country. A key target set by the policy is to expose at least 50% of learners in both school and higher education to vocational education by 2025, using structured action plans and clear timelines. The policy also envisions a flexible, inclusive, and holistic education system where vocational education begins in middle school. Students will be introduced to at least one vocation and exposed to many others. Integration across arts, science, and vocational disciplines will eliminate rigid boundaries between academic streams. NEP 2020 also emphasizes incorporating indigenous knowledge systems such as 'Lok Vidya' and proposes the expansion of the National Skills Qualifications Framework to accommodate all vocations. This framework will facilitate mobility between academic and vocational pathways, enabling flexible, lifelong learning through multiple entry and exit points and interdisciplinary choices.

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Vocational Education under NEP 2020 is, thus, a progressive step toward creating skilled, self-reliant, and employment-ready youth. The policy aims to enhance individual capabilities along with contributing to the socio-economic development of the country. It is therefore important to continuously monitor and evaluate the implementation of vocational education as outlined in the policy to ensure alignment with its envisioned objectives and outcomes.

Objectives of the Study

1. To assess awareness and understanding of NEP 2020's vocational education initiatives among students, teachers, and parents.
2. To study vocational education implementation in schools, focusing on resources, curriculum, and teaching methodologies under NEP 2020.
3. To analyse the impact of vocational education on students' skill development, career readiness, and employment prospects.
4. To identify challenges faced by educators, students, and parents in vocational education delivery and suggest improvements.

REVIEW OF RELATED LITERATURE

Aithal Shubhrajyotsna and Aithal P.S. (2020) analysed NEP 2020 and advocated for early skill development to promote self-reliance among students. They proposed integrating vocational subjects for foundational exposure to build employability and entrepreneurial skills.

Sharma (2022) examined NEP 2020's emphasis on teacher preparation and vocational education. Her study highlighted how vocational training, introduced from school levels onward, is essential for sustainable youth skill development and improved employability.

Lukose and Sharma (2023) evaluated NEP 2020's impact on skill development across education levels. Their study incorporated perspectives from different stakeholders and highlighted how school-based vocational education plays an important role in student capacity building.

Vats and Malik (2024) analysed the alignment of vocational education with general curricula under NEP 2020. Their research assessed the challenges of integrating vocational streams into the existing secondary education framework and evaluated the progress of policy implementation.

Prof. Kedareshubhangi, in his study on the current scenario of vocational education and training (2024), proposed that short-term training could be introduced within formal education institutions. Although his focus was on degree programs, the suggestion to organize forums is also relevant at the senior secondary level to bridge the gap between academic learning and market requirements.

METHODOLOGY

This study employed a descriptive research design to examine the implementation and outcomes of vocational education programs in senior secondary schools, as envisioned under the National Education Policy (NEP) 2020. A mixed-methods approach, including both quantitative and qualitative data, was used to gain a comprehensive understanding of the subject.

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Primary data were collected through questionnaires, administered using Google Forms specifically designed for students, parents, and teachers. The researcher approached various senior secondary schools in Zone 17 of New Delhi and circulated the digital questionnaires among the three key stakeholder groups:

- 52 senior secondary students enrolled in vocational education programs,
- 55 parents of senior secondary students enrolled in vocational education programs, and
- 20 educators, including vocational education faculty and subject teachers involved in program implementation.

Participants were selected using a combination of simple random sampling and purposive sampling techniques to ensure both randomness and accessibility in participant selection.

RESULT ANALYSIS AND DISCUSSION

Key findings of the study with respect to responses from students:

- **Implementation Status of Vocational Education:** 92% students reported that vocational education is being implemented in their schools. However, 8% students reported that vocational subjects are not being offered in their specific class sections.
- **Awareness and Source of Information:** 87% students learned about vocational education through teachers. 1% students mentioned parents while 12% students mentioned other channels with respect to source of awareness and information for Vocational Education.
- **Subject Enrolment Trends:** Popular vocational subjects among students include:
 - IT/Computer Science
 - Typography & Computer Applications
 - Healthcare/Health and Care
 - Physical Education
 - Arts and Crafts

Subjects like Textile Design, Cooking, and Robotics had fewer enrolments.

- **Perceived Usefulness and Skill Confidence:** About 88% students believe vocational education is useful for future careers, but only 29% students expressed high confidence in the skills acquired.
- **Quality of Vocational Education:** 85% students rated the quality as good to excellent.
- **Relevance to Interests & Engagement:** 70% students found vocational subjects aligned with their interests and reported that they were taught in engaging ways.
- **Practical Experience Opportunities:** While many students (71%) acknowledged having practical sessions, a notable number reported either no (15%) or planned-but-not-yet-executed practical experiences (14%).
- **Preparedness for Career or Further Education:** 65% students felt well-prepared and 27% students felt somewhat prepared, particularly when practical elements were integrated.
- **Balance Between Academic and Vocational Subjects:** 62% responses reflected a general agreement that a healthy balance exists, though 14% students felt the need of more periods for vocational subjects.
- **Enhancement of Future Prospects:** A large majority (86%) believe vocational education enhances future opportunities.

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- **Student Suggestions for Improvement:** Recurring themes in student feedback include:
 - Increase in practical exposure (labs, field visits, hands-on training).
 - Qualified and engaging vocational teachers.
 - Balanced theory and practical content.
 - Regular assessments and workshops.
 - Updated infrastructure (e.g., individual computers).

Above data shows that vocational education is widely implemented in schools of participants, but some students reported it isn't consistently offered. While most students learn about vocational education through teachers, there is limited awareness from parents. Popular subjects include IT, healthcare, and physical education but fields like robotics and textile design have fewer enrolments, possibly due to unavailability, limited interest or awareness. Although students recognize the usefulness of vocational education, there is a gap in confidence regarding the skills they have gained. Students suggested improvements such as more practical sessions, qualified teachers, updated infrastructure, and a better balance between academic and vocational subjects.

Key findings of the study with respect to responses from Parents:

- **Awareness of Vocational Education under NEP 2020:** Out of all respondents, 89% of parents reported being aware of the introduction of vocational education in senior secondary schools under NEP 2020. However, 11% were not aware of such provisions.
- **Perceived Importance for Child's Future:** 60% of parents considered vocational education to be "very important" for their child's future. Other 40% considered it "important", reflecting overall consensus about its relevance to students' future.
- **Perceived Benefits for Career or Further Studies:** 91% of parents believed that vocational education would benefit their child in terms of career development or further studies. 7% of parents were unsure with respect to the benefits of vocational education while 2% parents completely disagreed with it.
- **Satisfaction with Current Vocational Options in Schools:** 84% of respondents expressed satisfaction with the vocational options currently available in their child's school. However, 16% reported dissatisfaction, indicating potential disparities in implementation or unavailability or unawareness of Vocation Education in schools.
- **Preference for Integration with Academic Subjects:** A significant 69% of parents favoured an integrated approach, where vocational courses are taught alongside academic subjects. 29% preferred these courses to be taught separately.
- **Skill Development Noticed in Children:** About **85.5% of parents** reported noticeable improvement in their child's skills due to vocational education. However, **5.5%** did not notice any improvement and 9% were unsure, which suggests a potential gap between delivery of curriculum and its results in the form of skills in some cases.
- **Perceived Relevance to the Job Market:** An overwhelming **89%** of parents believed that vocational education offers practical, job-market-relevant skills while 9% were unsure regarding it.
- **Challenges Identified in Implementation:** Parents highlighted several key challenges (multiple answers) schools face in implementing vocational education:
 - Lack of Resources (Reported by ~67%)
 - Lack of Trained Teachers (~32%)

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- Curriculum Issues (~26%)
- Insufficient Student Interest (~29%)

Infrastructure remains the most prominent issue with other major concerns like teacher quality and curriculum alignment.

- **Suggestions for Improvement:** Recurring parent suggestions include- improved infrastructure and resource availability (labs, materials, tools), hiring and training more qualified vocational teachers, updating curriculum, increasing practical exposure and internships, organizing regular assessments, workshops, and awareness programs.

The data reveals significant parental awareness and optimism regarding vocational education under NEP 2020. Most parents acknowledge its role in preparing students for future careers and believe in an integrated, skills-based curriculum. However, common barriers like resource constraints, untrained faculty, and outdated curriculum need urgent attention.

Key findings of the study with respect to responses from teachers:

- **Awareness of NEP 2020:** All respondents (100%) reported being aware of the National Education Policy (NEP) 2020.
- **Training on Vocational Education as per NEP 2020:** 60% of teachers reported receiving specific training related to vocational education under NEP 2020, while 40% had not received any such training.
- **Effectiveness of Training Programs:** Among those trained, 20% rated the training as Very Effective, 40% as Effective, 15% as Somewhat Effective, and 25% found it Not Applicable (as they hadn't received training). This suggests that while most training is considered useful, there is scope for enhancement.
- **Vocational Courses Offered in Schools:** Common vocational courses offered include-
 - IT/Computer Science
 - Healthcare or Health and Care
 - Typography & Computer Applications
 - Retail
 - Stenography
 - Arts and Crafts

Less frequently reported were Textile Design, Apparel, and English Typography.

- **Integration with Academic Curriculum:** 55% of respondents indicated that vocational education is integrated with academic subjects, while 45% reported it is treated as separate subjects. Integration is more common where vocational streams are IT- or healthcare-related.
- **Availability of Resources:** Teachers rated vocational resources (equipment, materials, infrastructure) as follows-
 - Excellent – 30%
 - Good – 45%
 - Average – 20%
 - Poor – 5%

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- **Perceived Career Impact:** All respondents believe that vocational education significantly supports students in career development. This reflects strong relevance of its purpose.
- **Teacher Involvement in Implementation:**
 - Highly Involved – 60%
 - Moderately Involved – 35%
 - Not Involved – 5%
- **Challenges in Implementation:** The most commonly reported challenges (multiple responses) were-
 - Insufficient infrastructure (60%)
 - Lack of trained faculty (25%)
 - Low student interest (35%)
 - Outdated curriculum (20%)
- **Assessment of Career Preparedness:**
 - Very Impactful – 60%
 - Somewhat Impactful – 35%
 - Unsure – 5%

Most teachers see vocational education as having a strong positive impact on students' readiness for careers.

- **Teacher Recommendations for Improvement:** Recurring suggestions include-
 - Improved infrastructure and more computers.
 - Trained vocational faculty and regular workshops.
 - Centralized curriculum and assessment systems.
 - Stronger practical exposure and real-life learning.
 - Integration of vocational and academic subjects.

Teachers are highly aware of NEP 2020 and largely supportive of vocational education's role in student career development. However, not all have received relevant training, and many cite challenges such as poor infrastructure, lack of trained staff, and outdated content. Teachers strongly recommend infrastructure upgrades, more training, and better alignment of vocational content with student interests and career paths.

Major Findings:

The above findings from students, parents, and teachers reveal important insights into the implementation and outcomes of vocational education in government schools of Delhi Zone 17:

A major point of convergence across all three groups—students, parents, and teachers—is the recognition of importance of vocational education for students' future careers. However, implementation needs more attention. Students and parents reported gaps in the uniform delivery of vocational education. Teachers demonstrate full awareness of the vocational education initiatives under NEP 2020, but not all have received specific training. This lack of specialized training for teachers directly impacts the quality and delivery of vocational subjects.

When analysing the subject enrolment trends, there is a clear distinction between popular and less popular vocational subjects. Subjects such as IT, Healthcare, and Physical Education are well-received, while fields like robotics and textile design face lower

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enrolment. This divide is likely due to both the availability of resources and their alignment with students' interests and future career prospects.

A major concern emerging from the data is the gap between recognition of the usefulness of vocational education and confidence in the skills acquired by students. This issue is also reflected in the differing perceptions of skill development, where parents seem more optimistic about the skills their children are acquiring compared to the students themselves. The limited opportunities for hands-on learning and practical experiences are pointed out by all groups as a key area for improvement.

Finally, across all groups, there is a consensus on the need for improvements in vocational education, particularly in terms of infrastructure, teacher training, and practical exposure. Students have requested more field visits, hands-on sessions, and updated resources. Parents and teachers also emphasize the need for better-trained teachers and more regular workshops, assessments, and updated curriculum. This highlights the need for more systematic efforts to address the discussed gaps in vocational education.

Suggestions and Recommendations

On the basis of the data received during the research, following suggestions and recommendations are made to enhance the implementation and subsequent outcomes of vocational education in senior secondary schools:

- Establishing structured practical training sessions supported by field visits on regular basis, and access to modern tools and resources.
- Ensuring adequate infrastructure such as equipped labs and digital learning spaces as per the strength of the students.
- Mandatory teacher training including workshops on latest pedagogies and real-time engagement.
- More focus on integrating vocational education with mainstream academic learning alongside regular career counselling and orientation sessions involving industry experts.
- Developing monitoring mechanisms—such as feedback surveys and internal audits—to evaluate how well vocational education objectives under NEP 2020 are being achieved.

CONCLUSION

This study sheds light on how vocational education, as introduced under NEP 2020, is being implemented at the senior secondary level. While the idea of integrating skill-based learning into mainstream education is appreciated by students, parents, and teachers alike, the reality on the ground has significant gaps. Many schools have begun offering vocational subjects, but issues still exist—especially in terms of hands-on learning, availability of trained faculty, and adequate infrastructure. These directly affect meaningfulness and effectiveness of vocational education for students. Despite positive perceptions, gaps in practical exposure and skill confidence hinder effective outcomes and career preparedness. To achieve the desired outcomes, consistent and collaborative efforts by all the stakeholders for addressing the challenges are needed to strengthen its foundation in schools.

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Conflict of Interest

The author(s) declared no conflict of interest.

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