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Vocational Education and Employability Skills in India: An Evaluation of Skill Development Initiatives under NEP 2020

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Abstract:
In the context of India's increasing need for a skilled workforce, vocational education has emerged as a vital approach to boost employability and fill the skills gap. The National Education Policy (NEP) 2020 has brought about a paradigm shift in the integration of vocational education in mainstream education to address the disconnect between the academic knowledge and the labour market. This paper explores how Vocational Education can help impart employability skills and critically discusses major skill development initiatives in India such as Skill India Mission, Pradhan Mantri Kaushal Vikas Yojana (PMKVY), National Skill Development Corporation (NSDC), National Apprenticeship Promotion Scheme (NAPS), Jan Shikshan Sansthan (JSS) and Industrial Training Institutes (ITIs). The research design of the study is descriptive and analytical and is entirely secondary data oriented from reports of the government, policy documents, UNESCO publications and India Skills Reports and peer reviewed literature. Results show that these programs have contributed to a great extent in increasing access to skills development and enhancing vocational training at the national level. However, they face ongoing issues related to skill mismatch, poor infrastructure, lack of industry support, inter-regional variation and poor job creation. The study also emphasizes on opportunities afforded by NEP 2020 and the development of digital learning, Industry 4.0 capabilities, entrepreneurship development and lifelong learning pathway. It suggests that even though NEP 2020 has a solid blueprint for a successful change in the nature of vocational education, institutional support, ongoing industry collaboration, regular curriculum refresh and outcome-focused monitoring are needed to improve employability skills and create a globally competitive workforce.

Key words: Vocational Education, Employability Skills, National Education Policy 2020, Skill India Mission, Skill Development

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1. Introduction:

Vocational education is gaining significant importance in the education system around the world as it is closely linked to the development of the workforce, employability and the economy. Vocational education is different from academic education, where it instead aims to provide students with practical knowledge, technical skills, and skills relevant to a specific occupation and suitable for a variety of occupational fields. It will focus on developing the skills, attitudes and competencies required to respond to the needs of the labour market and support lifelong learning and sustainable career pathways (UNESCO, 2021). Vocational education plays an increasing role in today's world of work, amidst technology, automation and digitalisation.

The notion of employability skills is closely related to vocational education. Work-ready skills are the transferable skills, personal attributes and competences which help a person to secure, secure and advance in a job. (Yorke, 2006) Infused skills are communication, team work, problem solving, critical thinking, adaptability, leadership, digital literacy and professional ethics. Today, more and more employers look for job seekers who not only have the technical skills required for the job, but soft skills, as well. Growing employers are seeking candidates who have technical skills as well as soft skills that help them perform well in the workplace. Vocational education no longer teaches merely technical skills, and it involves the whole person to prepare them for the workplace (Harvey, 2001).

Though India is one of the fastest-growing economies in the world, it still has a lot of issues on skill development and employability. It has a high youth population commonly called the 'demographic dividend'. As per the Ministry of Skill Development and Entrepreneurship (MSDE, 2024), India has one of the youngest workforces in the world with a significant percentage of its population under 35 years of age. But a large labour force doesn't necessarily mean that it is economically productive. There are several studies and reports, which show that there is a continuous mismatch between the skills that graduates are equipped with and the skills demanded by the industries (NSDC, 2023). The skill gap, as it's known, is an issue that policy makers, educators, and employers are concerned about.

Further, the problem of joblessness among the youth brings the need for enhancing the vocational education system in the Indian context. While the number of people in education has risen significantly in recent years, there are still many who are having difficulties finding a suitable job or career. As per the India Skills Report (2025), employability of graduates is under par across academia and geographical areas and employers often find gaps in their practical skills, preparedness for work and employability. The gap between the results of education and the expectations of the labour market is further widening due to rapid technological changes, the advent of Industry 4.0, and the growing needs for digital skills. Therefore, the focus has shifted to improving employability through skill-based education, demanding an urgent focus on this aspect.

Understanding this problem, the Government of India initiated the Skill India Mission in 2015 aimed at skilling the nation to address the employment needs at home and abroad. The mission comprised of various schemes like Pradhan Mantri Kaushal Vikas Yojana (PMKVY), National Skill Development Corporation (NSDC), National Apprenticeship Promotion Scheme (NAPS), Jan Shikshan Sansthan (JSS) and others.

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The programs are designed to offer industry-relevant training, encourage entrepreneurship, increase workforce participation, and boost employment opportunities for youth (MSDE, 2024). Skill India Mission is a major policy initiative focusing on India's skill gap and bridging the education-employment nexus.

The National Education Policy (NEP) 2020 was a significant step in India's educational transformation. The policy recognises and celebrates the historic dichotomy between academic and vocational education and promotes the integration of vocational learning into mainstream education. The aim of NEP 2020 is to introduce at least 50% of the learners to vocational education by 2025 in school and higher education system (Govt. of India, 2020)(Government of India, 2020). It focuses on practical learning, practical internships, multi-disciplinary curriculum, industry interface and skill development to equip students for changing job market. NEP 2020 emphasizes flexibility, innovation, and lifelong learning, aiming to produce a skilled and flexible workforce in the ever-evolving economic landscape.

1.1 Significance of NEP 2020:

Assessing vocational education and skill development programs under NEP 2020 is important because it provides insights into their effectiveness in solving the employment issue in India. Many programmes and policies have been launched, but there are concerns about access, industry relevance, how they are implemented and their effectiveness on employment outcomes. Thus, a detailed study of the vocational education and skill development program is warranted to evaluate the impact of these programs on improvement of employability skills of the youth in India.

1.2 Rationale of the Study:

The present study is conducted with the objective of highlighting the importance of skills of vocational education to enhance employability as well as assessing the effectiveness of various skill development programs being undertaken under the banner of NEP 2020 in India. The study involves a process of analyzing policy documents, government reports and literature to glean insights into the status quo, challenges that remain, and potential areas of improvement for strengthening vocational education and workforce readiness in India.

2. Review of Literature:

Harvey (2001) looked at the notion of employability in higher education and challenged the view that employability is just about getting a job, but rather the development of skills, knowledge and personal attributes that are valued by employers. Communication skills, problem solving skills, team working and adaptability were highlighted as crucial employability skills. Harvey was convinced that educational institutions should concentrate on acquiring transferable skills and on academic learning for better outcomes when it comes to job market preparedness and career success (Harvey, 2001).

Yorke (2006) Yorke looked at employability as a collection of accomplishments, skills, understandings and personal qualities that improve graduates' prospects of employment and success in their chosen careers. The study highlighted the role of embedding employability skills in education. Results indicated

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that skills in academic performance and personal development both have an impact on employability. The author has determined that schools need to take learner-centred approaches to develop workplace skills and skills for lifelong learning. (Yorke, 2006)

Skill India Mission (2015) The Government of India introduced the Skill India Mission in order to produce a skilled workforce that is able to satisfy the requirements of the industry and boost the employment rates. The project was focused on imparting vocational training and skill programmes and providing entrepreneurship development. According to reports, millions of youngsters have been trained under various schemes and activities in the mission. The results show considerable improvements in the infrastructure for skill development, but there are also rooms for improvement in areas such as employment outcomes, quality assurance and industry alignment (Mission, Skill India, 2015).

PMKVY (2015) is a flagship skill certification scheme to encourage skill training in the field of Indian industries. The programme is based on short term training, RPL and placement. Research shows that PMKVY has increased access to skill training, especially for the disadvantaged. There are still some doubts about employment stability, job quality and employment placement. The programme has made significant contribution to skill development, needs to be linked with industry better and has a need for monitoring mechanisms (PMKVY, 2024).

UNESCO (2021) has released a State of Education Report on India's Vocational Education First, which focuses on the status of Vocational education and workforce preparedness in India. It also pinpointed underrepresentation in vocational education compared to more developed countries and the importance of better linkages between the education and employment systems. It was found that vocational training can have a profound impact on employability and productivity. UNESCO has determined that provision of vocational education and close ties with industry will be necessary for sustainable economic development (UNESCO, 2021).

Vocational education in NEP (2020) has been called for a paradigm shift in the approach by linking it to mainstream education. Vocational exposure at school level, internship, multidisciplinary learning and industry collaboration were recommended by the policy. It also sought to achieve at least 50% of learners getting vocational education by 2025. The policy was a decision to consider vocational education as part of the continuum of learning and not as a separate education system.

NSDC Skill Gap Report (2023) was conducted on the requirement of the workforce in different sectors of the Indian economy. The report highlighted significant differences between the skills employers needed and those graduates had. It was found that there is a growing demand for digital literacy, technical skills, and soft skills. The report highlighted the need for the vocational education programs to be in tune with the needs of the labour market. It found that there is a need for better collaboration between the education sector, industry and policy makers to narrow the employability gap (NSDC, 2023).

India Skills Report (2025) measured the employability of the Indian graduates or employees. Employability has increased in certain sectors, such as technology and digital skills, the report reports. There is still a long way to go, however, between different areas and subjects. Communication skills, adaptability and practical knowledge were highlighted by the employers. The report found that Vocational

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Education and skill-based training (VET) programmes are an important enabler of employability and employment (Wheebox, 2025).

Tiwari and Malati (2020) studied about the contribution of vocational education to skill development and employment of the vocational education learners of India. Using a mixed-method approach, the study collected data from 586 students enrolled in retail vocational education programmes. The exploratory factor analysis resulted in five broad dimensions of skills development, namely: Initiative and Enterprise Skills, Workplace Skills, Professional Practice and Standards, Interpersonal Skills and Integration of Theory and Practice. The results showed that there was a strong positive correlation between vocational education and employability skills. The study has concluded that Industry oriented vocational education is successful in addressing skill gaps and enhancing employability of the students and thus is contributing towards the development of workforce in India (Tiwari, 2020).

Jaiswal and Panda (2026) adopted a qualitative and conceptual research approach with secondary data analysis, critically examined the vocational education and skill development in the context of National Education Policy (NEP) 2020. The study emphasized vocational education's increasing significance for improving employability, mitigating skill gaps and promoting economic advancement in India. The results indicated that while NEP 2020 has initiated an ambitious agenda for the inclusion of vocational education into mainstream education, it is hindered by poor infrastructure, the stigma attached to vocational education, lack of trained vocational education teachers, and poor industry–institution linkages. The authors have concluded that NEP 2020, when implemented effectively with enhanced industry linkages and institutional enhancement, can greatly bolster India's Vocational Education Sector and help in sustainable economic growth of the nation (Jaiswal, 2026).

The literature reviewed highlights that vocational education as a whole has a major role in promoting the employability skills and workforce readiness. Even though skill policy initiatives like Skill India Mission, PMKVY and NEP 2020 have increased opportunities for skill development, there are still problems with the quality, relevance to industry, infrastructure availability and employment outcomes. From the literature it can also be noted that there is a need for more robust monitoring of such schemes, which is the rationale for the current study.

3. Research Gap:

Despite past research emphasising vocational education and skill development as an integral part of NEP 2020, most of them are conceptual/ policy-based in nature. There is a limited amount of research that has been conducted systematically to assess the effectiveness of any major initiative in skill development like Skill India Mission and PMKVY in improving employability skills and employment outcome. Moreover, there is a lack of evidence regarding the implementation of various reforms in NEP 2020 in different educational institutions, and the impact of these reforms on the workforce preparedness of Indian youths.

4. Objectives of the Study:

1. To examine the provisions of NEP 2020 related to vocational education and skill development.
2. To evaluate major skill development initiatives in India aimed at enhancing employability skills.

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3. To identify challenges and opportunities in the implementation of vocational education under NEP 2020.
4. To suggest measures for improving vocational education and employability outcomes.

5. Research Methodology:

The current research was descriptive and analytical in nature, which was used to explore the issue of vocational education and employability skills in the context of NEP 2020 in India. All the secondary data has been collected from authentic sources like the National Education Policy (NEP) 2020, India Skills Reports, All-India Survey on Higher Education (AISHE), National Skill Development Corporation (NSDC), Ministry of Skill Development and Entrepreneurship (MSDE), publications from UNESCO, and peer-reviewed journal articles.

Content analysis and thematic analysis techniques were used to analyze the collected information. Content analysis was used to conduct systematic review of policy documents, reports and scholarly literature, and thematic analysis was used to identify key themes of vocational education, employability skills, skill development initiatives, opportunities and challenges. The study assesses the linkage of the existing skill development programmes with the goals of NEP 2020 and their role to improve the employability of the youth in India.

6. Vocational Education under NEP 2020:

6.1 Vision of NEP 2020:

The National Education Policy (NEP) 2020 has paved the way for a new era in the educational system of India, which emphasizes a comprehensive and multi-disciplinary approach to learning. The policy aims at shifting from rote learning and academics to incorporate cognitive, practical, social and vocational competencies in the learning process (Government of India, 2020). It sees education as a means of providing knowledge as well as equipping students with appropriate skills for their personal development, employment, and lifelong learning.

Skill-oriented learning is a key component of NEP 2020. The policy recognises the growing need for a skilled workforce in an ever-changing economy and places a priority on building employability skills including communication, critical thinking, creativity, collaboration and problem solving. NEP 2020 seeks to bridge the existing disconnect between academic and vocational education and create a more adaptable and inclusive education system by merging the two streams together (UNESCO, 2021). The policy also aims at using vocational education to improve the workforce participation, decrease unemployment and promote national economic development.

The NEP 2020 presents 5.2 key provisions for the vocational education system.The NEP 2020 outlines the following key provisions to the vocational education system:

A unique aspect of NEP 2020 is the vocational exposure from school level. The policy supports the idea of students being introduced to vocational skills at an early age to build up practical skills and knowledge of different jobs. This is an effort towards the reduction in the social stigma attached to vocational education and enlistment of the students to explore various career options (Government of India, 2020).

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The policy also encourages 'Bagless Days' where students can engage in practical sessions, workshops, and interactions with artisans, craftsmen, and professionals in the local community, fostering experiential learning. These experiences allow learners to develop real-life experience of skills and knowledge. The policy also promotes the provision of internships for school students and higher education students, to provide them with work based exposure and experience in the workplace. It is expected that these internships will enhance the linkage between education and employment and career readiness of the students (Government of India, 2020).

The other important provision is the linkage of vocational education to mainstream education. The NEP 2020 promotes the integration of vocational education into schools and higher education institutions, and does not distinguish between vocational and academic education. The integration facilitates flexibility and allows students to take both academic and skills-based courses based on their interests and career goals.

In addition, the policy also brings the Multiple Entry and Exit System to higher education, enabling students to join and drop out of programmes at various points and receive appropriate recognition. This is a welcome facility for vocational learners who may require flexibility in a range of ways – perhaps because they have work or financial commitments. Complementing this system is the Academic Bank of Credits (ABC) that allows for the transfer, accumulation and redemption of academic credits across various institutions. The ABC encourages lifelong learning and a learner's commitment to continuing to develop their skills throughout their education (UGC, 2021).

NEP 2020 also underscores better industrial engagement to make vocational education more relevant to the needs of the labour market. The policy fosters collaborations among educational institutions, industries, and skill development agencies to develop curriculum, arrange internships, and offer apprenticeship opportunities. This collaboration is expected to help bridge the gap between classroom learning and workplace requirements, which will in turn help improve the employability outcomes (NSDC, 2023).

One of the significant milestones towards achieving the NEP 2020 is to ensure that 50 percent of learners have access to vocational education by 2025. This ambitious aim underlines the government's policy on the mainstreaming of vocational education and the development of a skilled workforce to drive economic development and competitiveness of the country in the international arena (Government of India, 2020).

Critical Analysis of Feasibility:

While NEP 2020 has laid out a comprehensive approach towards vocational education reform, it has its own challenges in application. The goal of being 50% vocational exposure will require significant investments in infrastructure, teacher training, curriculum development and industry partnerships. Educational institutions in rural and underdeveloped areas, especially, do not have sufficient facilities and qualified vocational teachers (UNESCO, 2021).

Moreover, the attitude of the society towards academic education still plays a role in students' education decisions. Programs like bagless days, internships, industry collaboration, and others are dependent on institutional capacity and stakeholder involvement for their effectiveness. The Multiple Entry and Exit

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System and Academic Bank of Credits are flexible, but they need to have good administrative coordination and technological support in place (Jaiswal & Panda, 2026).

In spite of all these difficulties, the NEP 2020 gives a visionary approach to Skill Development in India. With proper funding, good governance and continued industry involvement, the policy could have a positive impact on employability skills, skill gaps, and India's human resource strength in the years to come.

7. Evaluation of Major Skill Development Initiatives in India:

7.1 Skill India Mission (2015):

It is the Skill India Mission that was initiated by the Government of India in 2015 to meet the rising need for skilled workforce and enhance the employability of the Indian youth. The mission aims to impart market-based skills, foster entrepreneurship and enable matching of workforce skills and industry needs (MSDE, 2024). It aims at increasing employment training opportunities and bridging skills deficits, boosting productivity and improving the economic growth.

The mission has made commendable progress towards making a holistic skill development ecosystem through various programmes like PMKVY, NAPS, NSDC, Jan Shikshan Sansthan, etc. Millions of youths have been provided with skill training in various sectors, thereby promoting workforce development and livelihood generation. Moreover, the mission has raised awareness about vocational education and skill certification in its country.

Although this has been accomplished, there are some weaknesses. The quality of the skills being trained is not consistent between institutions, the placement of the trained skills is not always good, and industry involvement is not sufficient. Other challenges to the effectiveness of the mission include regional differences, inadequate monitoring systems and inadequate attention to new technologies. As a result, although Skill India has boosted availability of trainings, its sustainability in creating job opportunities needs to be reinforced.

7.2 Pradhan Mantri Kaushal Vikas Yojana (PMKVY):

The flagship skill certification programme under the Skill India Mission is Pradhan Mantri Kaushal Vikas Yojana (PMKVY). It is set to offer industry-specific training and certification to the youth who are out of work and school dropouts. The scheme is focused on Short-Term Training (STT), Recognition of Prior Learning (RPL) and Special Projects (SPs) to cater for local skill needs (MSDE, 2024).

The programme has been rolled out with wide reach in states and UTs, benefitting millions of people from different socio-economic backgrounds. PMKVY has made significant contributions to enhancing access to vocational training, especially for the economically disadvantaged and first-generation learners.

The scheme has had a positive effect on the technical skills, confidence and employability of participants. Studies, however, show disparities in employment creation in the various sectors. Some trainees have landed jobs or self-employment opportunities, whilst others experience problem(s) on account of lack of demand for their skill in the industries, lack of skill match and inadequate support after training. Hence,

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while PMKVY has provided better access to skill training, there is a need for better placement rates and quality assurance for better employability.

7.3 National Skill Development Corporation (NSDC):

In 2008, the Government of India and private sector created the National Skill Development Corporation (NSDC) to promote skill development in a large scale in the country. It primarily aims at promoting private sector engagement in vocational training, supporting training institutions, designing curricula as per the needs of the industry, and enhancing vocational training initiatives (NSDC, 2023).

NSDC's one of the significant contributions is the formation of Sector Skill Councils (SSCs). These councils are industry-specific bodies that identify the skills needed, establish occupational standards, create occupational qualifications frameworks and validate training programmes. SSCs are very important in ensuring that any skill development programmes are synchronized with the needs of the labour market. NSDC has been able to make a substantial impact in the establishment of a structured and standardized ecosystem of skill development through its partnerships with industry, educational institutions, and training institutions. However, the effectiveness of some training programmes is still hampered by the quality control, reliability of assessment and industry involvement issues.

7.4 National Apprenticeship Promotion Scheme (NAPS):

National Apprenticeship Promotion Scheme (NAPS) was introduced for promoting the industry to take up apprentices and give hands-on training in the workplace. The scheme aims to align theoretical training with industry needs, providing structured apprenticeship programs (Government of India, 2023).

One of the key strengths of NAPS is the industry linkages. The scheme enables employers to work more closely with learners through participation in apprenticeship programmes. Apprentices get valuable "hands-on" experience, learn practical skills and become familiar with industry practices.

The apprenticeship approach is seen all over the world as a viable system for training the workforce. But in many sectors, the engagement of industries is less than anticipated. Finances and admin pressures are a problem for small and medium sized businesses taking on apprentices. Increasing incentives for employers and raising awareness will enhance the impact and reach of NAPS.

Jan Shikshan Sansthan (JSS):

Jan Shikshan Sansthan (JSS) is a community-based skill training program that focuses on skill training for non-literate, neo-literate, school dropouts, women, and marginalized population. The programme emphasises livelihood skills and aims to improve self-employment and income generation opportunities (MSDE, 2024).

JSS has a strong contribution to inclusive skill building as it reaches out to those who are vulnerable and may be out of school. Training programmes are relevant and accessible to the local economic needs and the local community context.

The initiative has been successful in the empowerment of women, rural youth and disadvantaged groups by providing them with the necessary skills and developing entrepreneurship. However, its impact is still

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limited due to financial constraints, lack of infrastructure and poor market linkages. Increase partnerships with local industries and SHGs to improve sustainability of JSS outcomes.

7.6 Industrial Training Institutes (ITIs)

Industrial Training Institute (ITI) is one of the oldest and most important vocational training system in India. ITI's are created for imparting technical and trade specific education which would equip the students for the job opportunity in the manufacturing, construction, engineering and service industries.

ITIs play a key role in employability through the provision of skills and certification in trades as well as practical training, which are relevant to the industry. They have reached every corner of the country to provide access to vocational education for millions of learners, especially those who want to go straight into the labour market.

Even though they play a role in overall development, many ITI's are struggling with such issues as obsolete equipment, lack of industry cooperation, an outdated curriculum and inadequate teachers. To keep pace with the age of Industry 4.0, the ITIs needs to overhaul their infrastructure, incorporate digital technologies and develop a closer collaboration with industry. Progressive reforms are crucial for enhancing employment results and competitiveness of the labour market.

Evaluation of Skill Development Initiatives:

Overall assessment of the key skill development programs in India indicates success and ongoing challenges. The access to vocational education has significantly increased with the implementation of nationalization programmes and extension of vocational education institutions. Inclusiveness has also been enhanced, especially for women, the youth in rural areas and the disadvantaged. The relevance of training to industry needs is, however, moderate as there are still skill mismatch and some level of uneven industry participation.

These efforts have had varying results on employability. Although many beneficiaries have gained skills and employment opportunities, there is inconsistent placement and retention in jobs. The infrastructure and resource limitations of rural areas still remain an obstacle for rural outreach, and it continues to make it difficult to provide quality training in these areas. There has been improvement in the participation of gender through targeted interventions to promote women's participation in skill development programmes which is a positive development, encouragingly.

The skill development ecosystem in India, in general, has grown extensively in the last ten years and is very much aligned with the vision of NEP 2020. But there is a need to focus more on quality assurance, industry, technology integration, outcome-based monitoring, and so on to achieve the best possible outcomes of these efforts and to create job opportunities for India's burgeoning work force.

8. Challenges and Issues:

Despite the numerous policy initiatives and investments in skill development, India is currently grappling with some challenges in realizing the goals of vocational education and improving employability. A common challenge is the ***gaps between skills*** that students are learning and skills needed in the industry.

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As per the India Skills Report 2025, only 54.81% of the graduates were found to be employable and nearly half of them were found to be lacking the skills required by the employer. This is especially true of the emerging industries that depend on digital, technical and problem-solving abilities. Academic programmes are also reported to be not up to date with the fast changes in labour market needs, and this causes fewer opportunities for graduates to find employment. (LinkedIn)

The second is the ***gap between the rural and urban*** areas in access to quality VET (Vocational Education Training) and ST (Skill Training) programmes. Rural areas, on the other hand, tend to have underdeveloped infrastructure, training centers, exposure to the industry, employment opportunities, etc., while urban areas tend to have all of these. Rural youth make up a large percentage of India's total population, but unemployment and underemployment are still a significant problem. The employment figures of the rural youth continue to be high, as reported, thus necessitating more investment in skill development infrastructure and employment-oriented programmes in the rural areas. (PCI Global)

Vocational education programmes are still not very effective due to the ***absence of strong linkage with industry***. While there are a number of initiatives like NSDC, PMKVY and NAPS which promote participation of the industry, there is mixed engagement between education and industry. There is often a mismatch between training outcomes and workplace needs, as many programmes are not appropriately designed to meet industry needs. Employers often cite poor practical skills, readiness, and technological skills as a common problem with graduates, according to studies. (Institute for Competitiveness)

A lack of infrastructure is also a major obstacle to good skill development. In many vocational training centres and Industrial Training Institutes (ITIs) in rural and economically weaker areas, the equipment is old, the labs and computer labs are not adequate, and there is a lack of digital resources. These are deficits that limit opportunities for experiential learning and the quality of training. Skill programmes and advanced level training in new and evolving areas like artificial intelligence, cybersecurity, and data analytics are also hindered by infrastructure problems. (The Economic Times)

Vocational education has a ***lack of social acceptability*** in India. Many students and parents do not see vocational education as being as prestigious as academic education, and may choose to opt for general education courses when vocational courses might provide a better opportunity to obtain a job. The negative attitude of the society reduces the enrolment in skill programmes and hinders the integration of vocational education as mentioned in NEP 2020 (Government of India, 2020).

Likewise, India ***lacks skilled teachers and trainers*** who can impart industry oriented vocational education. It is often hard to find institutions that employ teachers who have both technical knowledge and practical experience in the industry. The lack of continuous professional development opportunities further impacts on the quality of instruction and effectiveness of training programmes. As a result, pupils may not develop the skills required for the 21st century workplace.

Another important consideration is the ***lack of employment results***. Despite the provision of skill training for millions of people under government schemes, job creation and placement is not consistent in all sectors and regions. Although there has been an improvement in employability over the years, recent reports suggest that about 55% of graduates are job-ready. This indicates that skill development does not always lead to jobs being secured, especially in very competitive job markets. (IASSCORE)

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Last, and certainly not least, is the ***digital divide*** in the era of technology-based learning and jobs. Digital device access, internet connections and digital skills are not evenly distributed, particularly in rural and marginalised communities. Digital literacy is becoming a vital skill in the workplace and online learning is becoming a growing practice, which puts a disadvantage on people who are deprived of digital resources. This gap cannot be bridged without ensuring equitable access to skill development programmes and improve employability in the digital economy. (The Economic Times)

In summary, the challenges point to the importance of more effective policy execution, industry partnerships, infrastructure expansion, social awareness, and inclusive digital access to ensure vocational education and skill development programs are as effective as possible in India.

9. Opportunities under NEP 2020:

National Education Policy (NEP) 2020 offers tremendous opportunities for the transformation of India's vocational education and skill development system. The policy aims at building a human resource base to address the challenges of the twenty first century, with an emphasis on flexibility, multi-disciplinary learning and industry-oriented education. Incorporation of vocational education in mainstream education is expected to improve employability, innovation and economic productivity (Government of India, 2020).

The promotion of ***Industry 4.0 skills*** is one of the most desirable courses of action taken under NEP 2020. Industries around the globe are being transformed by the speed of technological change, such as automation, robotics, the Internet of Things (IoT), big data analytics and cloud computing. The NEP 2020 has also stressed on the introduction of emerging technologies in education curricula and skill development programmes. This can enable the learners to gain future ready skills and minimise the gap between learning outcomes and industry needs (NSDC, 2023).

Artificial Intelligence (AI) and digital skills are also on the rise, and are becoming increasingly relevant, particularly next to Industry 4.0. AI, Machine Learning, Cybersecurity, Coding, and Data Analytics skills have seen a rise in demand due to digital transformation of workplaces. NEP 2020 aims to encourage digital literacy and technology-driven education at all levels of schooling. The policy can be adopted to vocational programmes to strengthen the employability of the workforce and provide better employment opportunities in technology-driven sectors through the integration of digital competencies (UNESCO, 2021).

Entrepreneurship development opportunities for learners are also provided in the policy. NEP 2020 is more than just about jobs; it encourages innovation, creativity and entrepreneurial spirit. Skill-based education and practical training and internships can assist students in building the knowledge and confidence needed to create self-employment opportunities and small business ventures. This is especially crucial in a growing economy like India, where entrepreneurship has the potential to be a major source of job creation and local economic growth (MSDE, 2024).

Promotion of ***local skill ecosystems*** is another key opportunity. The paradigm of NEP 2020 is to make the focus on the inclusion of local crafts, traditional occupations and region-specific vocational skills in education. This could boost community economies, sustain local knowledge systems and create jobs in local communities. If the vocational training is linked with the needs and resources of the region, the

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participation of educational institutions can help in creating sustainable regional development and solving migration related problems (Government of India, 2020).

Another feature of NEP 2020 is that ***vocational education is integrated with higher education***. Historically, vocational and academic education operated as separate tracks, and students' career mobility and flexibility were restricted. The policy aims to close this gap by ensuring that students can take vocational courses alongside traditional programmes of study. This integration enables multidisciplinary learning because students can learn theory and practice, so that they would be more employable and have more career opportunities (UGC, 2021).

The NEP 2020 also emphasizes on providing ***lifelong learning opportunities*** with a flexible pathway, like Multiple Entry Exit System and Academic Bank of Credits. The provisions allow learners to be educated, skilfully developed and qualified on an ongoing basis. A changing labour market necessitates the need for lifelong learning to ensure employability and adjust to changing technology and economic conditions (Government of India, 2020).

Last, and most important, is the policy's impact on the prospects for ***employability throughout the world.*** With the ever-rising trend of globalization and the mobility of the workforce and competition from around the world, employers look for people who possess not only technical skills but also transferable skills. Vocational skills, digital literacy, communication skills and hands-on practice outlined in NEP 2020 is in line with the global requirements of the workforce. Therefore, Indian learners can be more competitive in the international labour market, which can lead to national development and participation in the international workforce (UNESCO, 2021).

Overall, NEP 2020 offers a comprehensive plan to enhance vocational education and skills for employability. The policy emphasises technology, entrepreneurship, flexibility and relevance, which generates many opportunities for building a skilled, flexible, and competitive workforce in the industries.

10. Recommendations:

A number of strategic measures are required if the vocational education and skill development programmes in India are to be maximised. To enhance the ***collaboration between industry and academia,*** there is a need to improve the linkage between educational institutes, industry, and training provider. The regular involvement of industry in the design of curricula, assessment of skills, internships and placement can help ensure that training programmes continue to meet changes in the requirements of the labour market.

Secondly, ***apprenticeship programs*** need to be expanded throughout sectors. Improving National Apprenticeship Promotion Scheme (NAPS) and ensuring small and medium enterprises are more involved in supporting apprentices can help to deliver work experience opportunities for learners and enhance employment prospects. Financial support and ease of processes for taking on an apprentice may help to increase the number of employers taking on an apprentice.

Thirdly, the government should ***invest more on vocational education and skill development*** programmes. Further investments are needed to enhance infrastructure, update training equipment, enable faculty

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development and to increase access to good vocational education, especially in rural areas and in less served areas.

Modernization of ***Industrial Training Institute (ITI)*** is also significant. The ITIs should be provided with up-to-date laboratories, digitalisation and industry standard machines. Reviewing the curriculum regularly should be considered to ensure it is aligned with new industry trends and new technologies.

There should also be an attempt to ***raise awareness on vocational education***. The social stigma of vocational jobs can be overcome by raising awareness in the public and making students and parents understand that vocational education is a great option for gainful employment and entrepreneurship.

Moreover, ***outcome monitoring and evaluation systems*** should be implemented as a policy measure to be able to measure the effectiveness of the skill development programmes. The programme outcomes of placements, income generation, retention and employer satisfaction should be used as indicators of the success of the programme and to inform future development.

Other major suggestions are related to ***district level skill mapping***. A context-specific training programme can be developed that meets local industry needs and local skill shortfalls by understanding the local employment opportunities and skill needs.

Last but not least, new technologies like Artificial Intelligence, data analytics, robotics, cybersecurity and digital literacy need to be integrated in training programs and programmes need to be designed to respond to these new technologies. The skills acquired by the learners will be future-oriented and help in improving the employability of the children and the overall Indian workforce.

11. Conclusion:

Vocational Education has proved to be a significant tool in improving the employability, productivity of the workforce and sustainable economic development in India. The National Education Policy (NEP) 2020 is a much more progressive step in mainstreaming of vocational education, in the direction of more flexibility, inclusivity, skill orientation of education system. The policy aims to help to close this gap by offering vocational exposure from school level, internships, a greater number of entry and exit points and increased industry engagement. The assessment of the major skill development initiatives like Skill India Mission, PMKVY, NSDC, NAPS, JSS, ITIs etc. show significant strides in promoting access to vocational education and skill development. These programmes have helped to raise the participation rate of the workforce, encourage entrepreneurial activity and raise awareness of vocational education.

But there are still some problems that hamper the effectiveness of these initiatives. The mismatch of skills, poor infrastructure, lack of industry connections, low teacher numbers, rural-urban differences, and employment outcomes are still important issues. Other obstacles to policy goals include the digital divide and the social discrimination against vocational education. Hence, for achieving the vision of NEP 2020, it is essential that the efforts are continuously made to enhance industry interface, modernize training institutes, improve quality assurance system and promote employability-oriented vocational education. If these challenges and opportunities can be dealt with, the Indian workforce can become skilled, adaptable and competitive to the needs of the twenty first century economy.

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