

# National Education Policy, 2020

## Reimagining Vocational Education

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### Background Paper For Teacher's Fest



National Council of Educational Research & Training, Delhi

# Reimagining Vocational Education

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## 1.0 Introduction

Vocational Education (VE) is a significant component of the nation's education initiative. The National Policy on Education (2020) recognizes the vital role of Vocational Education and Ministry of Education (MoE) has already taken a number of important initiatives in this area. In order Vocational Education to play its role effectively in the changing national context and for India to enjoy the fruits of the demographic dividend, the National Policy has reimagined the critical elements of vocational education to make it more accessible, flexible, contemporary, relevant, inclusive and creative.

This document presents a comprehensive explanation of the recommendations of the National Education Policy 2020 has envisaged a reimagining the role of Vocational Education in the current education system.

## 2.0 Access

The 12th Five-Year Plan (2012–2017) estimated that only a very small percentage of the Indian workforce in the age group of 19–24 (less than 5%) received formal vocational education, whereas in countries, such as the United States of America, the number is 52%, in Germany 75%, and South Korea, it is as high as 96%. These numbers underline the urgency of the need to hasten the spread of vocational education in India. One of the primary reasons for the small numbers of students receiving vocational education is the fact that vocational education has in the past focused largely on Grades 11–12 and on dropouts in Grade 8 and upwards. Moreover, students passing out from Grades 11–12 with vocational subjects often did

not have well-defined pathways to continue with their chosen vocations in higher education.

The policy recommends introduction of vocational education from Grade 6 onwards to provide access to all students high quality vocational education, necessary to enable them to acquire necessary skills for further education and training and a clear and recognised pathways to employment. The vocationalisation of education will be expanded in all the government and government aided schools through *Samagra Shiksha Abhiyan*.

All students will participate in a 10-day bagless period during Grades 6-8 where they intern with local vocational experts, such as carpenters, gardeners, potters, artists, etc. Similar internship opportunities to learn vocational subjects may be made available to students throughout Grades 6-12, including holiday periods.

Pre-vocational education will be introduced for all children from Grades VI to VIII. For this purpose, based on NCERT framework, Ministry of Education will prepare detailed guidelines. Students would be able to develop an understanding of the work environment, career options and pathways, which is necessary for developing a positive attitude towards Vocational Education and Training and lifelong learning.

Access to relevant career information, guidance and student support services, which integrate education, labour market and community services will be enhanced through technology. Skill Based Aptitude Test (SBT) will be introduced to provide guidance to the students for career choice.

Awareness programmes will be organised to change the general attitude towards Vocational Education. Public Awareness to de-stigmatise Vocational Education will be done through social media.

### **3.0 Equity**

Vocational education is perceived to be inferior to mainstream education and meant largely for students who are unable to cope with the latter. This is a perception that affects the choices students make. It is a serious concern that can only be dealt with by a complete re-imagination of how vocational education is offered to students in the future.

This policy aims to overcome the social status hierarchy associated with vocational education and requires integration of vocational education programmes into mainstream education in all educational institutions in a phased manner. Beginning with vocational exposure at early ages in middle and secondary school, quality vocational education will be integrated smoothly into higher education. It will ensure that every child learns at least one vocation and is exposed to several more. This would lead to emphasizing the dignity of labour and importance of various vocations involving Indian arts and artisanship.

#### **4.0 Adaptability and Flexibility**

Vocational education will facilitate young people learning in a variety of settings, including the classroom, workplace and the wider community. It will foster and develop not only some vocational skills but also enterprise skills for preparing them as entrepreneurs. Local craftspersons and community will be involved in imparting skills to the students, which will also help in strengthening schools as learning communities, where teachers, students and their families work in partnership with business, industry and the community.

Vocational education will help young students to acquire lifelong learning skills to enable them to cope up with the rapid pace of technological changes through lifelong learning and adapt to the frequent changes through “earn and learn” concept. It will provide opportunities to students for improving learning and achievement by engaging in real-life contexts that addresses their personal, social and economic issues and adapt to the changes in world of work. It will help them to equip with the ability to identify, create, initiate and successfully manage personal, business, work and community opportunities.

The National Council of Educational Research and Training (NCERT) will develop the National Curriculum Framework (NCF). One of the working papers to be developed will be on “Pre-vocational Education and Vocational Education”. The NCERT will also prepare guidelines, textbooks and teacher handbooks for vocational subjects. Assistive devices and appropriate technology-based tools, as well as adequate and language-appropriate teaching-learning materials (e.g., textbooks in accessible formats such as large print and Braille) will be made available to help children with

disabilities and integrate more easily into classrooms, and engage with teachers and their peers. Learning Outcomes (LOs) will be the developmental considerations for providing inputs to the new National Curriculum Framework.

## **5.0 Community and Industry Partnerships**

Vocational education will be integrated in the educational offerings of all secondary schools in a phased manner over the next decade. Towards this, secondary schools will also collaborate with Industrial Training Institute (ITIs), polytechnics, skill knowledge providers, Vocational Training Providers, Community members, artisans, local industry, etc. Skill labs will also be set up and created in the schools in a hub and spoke model, which will allow other schools to use the facility.

## **6.0 Assessment and Evaluation**

The NCERT in collaboration with concerned experts from different institutions will develop a Position Paper on Assessment and Examination Reform, which will include guidelines on assessment reform, also focussing on redesigning of report cards. The focus will be on competency based assessment and evaluation.

The School Education Boards will be strengthened to carry out the assessment of vocational courses, in collaboration with the industry.

## **7.0 Professional Development of Vocational Teachers**

Vocational Teachers/Trainers will be given continuous opportunities for self-improvement and to learn the latest innovations and advances in their professions. These will be offered in multiple modes, including in the form of local, regional, state, national, and international workshops as well as online teacher development modules. A common National Professional Standards for Teachers (NPST) will be developed by 2022 for the country. National Council for Teacher Education (NCTE) will coordinate this effort and prepare the NPST in consultation with the NCERT, State Council of Educational Research and Training (SCERTs), and teachers from across levels and regions, expert organisations in teacher preparation and development, higher educational

institutions and other relevant stakeholders. State Professional Standards for Teachers to be developed by SCERTs.

The PSSCentral Institute of Vocational Education (PSSCIVE) must be assisted in developing teacher training modules and teacher handbooks by the Departments of Education within universities that are engaged in teacher preparation, and by the State governments through SCERTs, District Institute of Education & Training (DIETs), State Institutes of Vocational Education (SIVEs) and the schools themselves, in order to train the requisite numbers of teachers.

Vocational Teachers Training programmes for promoting new learning methods (experiential learning, and use of digital tools like Massive Open Online Courses (MOOC's), flipped learning and virtual learning methods) will be organized by NCERT, National Institute of Open Schooling (NIOS), Central Board of Secondary Education (CBSE), State Boards and State Education Departments.

## **8.0 Higher Vocational Education**

The admission criteria for general higher education were not designed to provide openings to students who had vocational education qualifications, leaving them at a disadvantage relative to their compatriots from 'mainstream' or 'academic' education. This led to a complete lack of vertical mobility for students from the vocational education stream, an issue that has only been addressed recently through the National Skill Qualification Framework in 2013. It will ensure, through creative and flexible approaches, that all students have access to a range of vocational education courses, so the students can acquire broad work-related skills and competencies from the lowest to the highest possible level of education.

Vocational education will be integrated into all school and higher education institutions in a phased manner over the next decade. By 2025, at least 50% of learners through the school and higher education system shall have exposure to vocational education, for which a clear action plan with targets and timelines will be developed. This is in alignment with Sustainable Development Goal 4.4 and will help to realize the full potential of India's

demographic dividend. The number of students in vocational education will be considered while arriving at the Gross Enrollment Ratio (GER) targets.

Higher education institutions will offer vocational education either on their own or in partnership with industry and Non-governmental Organization (NGOs). Different models of vocational education, and apprenticeships, will also be experimented by higher education institutions. Incubation centres will be set up in higher education institutions in partnership with industries. Focus areas for vocational education will be chosen based on skills gap analysis and mapping of local opportunities. Higher Education Institutions will be allowed to conduct short-term certificate courses in various skills including soft skills.

The Bachelor of Vocation (B.Voc.) degrees introduced in 2013 will continue to exist, but vocational courses will also be available to students enrolled in all other Bachelor's degree programmes, including the 4-year multidisciplinary Bachelor's programmes.

The Ministry of Human Resource Development (now renamed as Ministry of Education) will constitute a National Committee for the Integration of Vocational Education (NCIVE), consisting of experts in vocational education and representatives from across Ministries, in collaboration with industry, to oversee this effort. Individual institutions that are early adopters will innovate to find models and practices that work and then share these with other institutions through mechanisms set up by NCIVE, so as to help extend the reach of vocational education.

A General Education Council (GEC) will be formed, which will frame expected learning outcomes for higher education programmes, also referred to as 'graduate attributes'. A National Higher Education Qualification Framework (NHEQF) will be formulated by the GEC and it shall be in sync with the National Skill Qualification Framework (NSQF) to ease the integration of vocational education into higher education. Higher education qualifications leading to a degree/diploma/certificate shall be described by the NHEQF in terms of such learning outcomes.

The professional councils, such as the Indian Council for Agricultural Research (ICAR), Veterinary Council of India (VCI), National Council for Teacher Education (NCTE), Council of

Architecture(CoA),NationalCouncilforVocationalEducationandTraining(NCVET) etc.,willact as “Professional Standard Setting Bodies” (PSSBs). They will play a key role in the higher education system and will be invited to be members of the GEC. These bodies, after restructuring as PSSBs, will continue to draw the curricula, lay down academic standards and coordinate between teaching, research and extension of their domain/discipline, as members of the GEC. As members of the GEC, they would help in specifying the curriculum framework, within which HEIs may prepare their own curricula. All HEIs will decide how their educational programmes respond to these standards, among other considerations, and would also be able to reach out for support from these standard-setting bodies or PSSBs, ifneeded.

The Department of Higher Education will provide for vertical mobility of students undertaking vocational education at school level by offering similar courses in progression under B.Voc. and other UG courses offered at higher educational institutions. Weightage/preference/reservation will also be provided to students who have cleared NSQF level 3 or 4 courses at school level for admission to higher level vocational /technical courses.

## **9.0 Open Vocational Education**

The possibility of offering vocational courses through Open and Distance Learning (ODL) mode will be strengthened. National Institute of Open Schooling(NIOS) will cater to the requirements of open vocational courses, especially for the dropouts from the formal system through the ODL system. The curriculum for the National Institute of Open Schooling (NIOS) must be largely aligned with that of NCERT.

## **10.0 National Skill Qualification Framework**

The National Skill Qualification Framework will be detailed further for each discipline vocation and profession. This Framework will also provide the basis for Recognition of Prior Learning (RPL). Through this, dropouts from the formal system will be reintegrated by aligning their practical experience with the relevant level of the framework.



Further, Indian standards will be aligned with the International Standard Classification of Occupations maintained by the International Labour Organization.

The General Education Council (GEC) shall set up facilitative norms for issues, such as credit transfer, equivalence, etc., through the NHEQF. The GEC will be mandated to identify specific skills that students must acquire during their academic programmes, with the aim of preparing well-rounded learners with 21st century skills. The credit-based framework, prepared by GEC will also facilitate mobility across 'general' and vocational education.

Vocational courses which will cater to the new and emerging skill demands of the industry, particularly for the Industry 4.0, Artificial Intelligence, Robotics, and Internet of Things (IoT) will be developed under the NSQF.

### **11.0 LokVidya**

“Knowledge of India” will include knowledge from ancient India and its contributions to modern India and its successes and challenges, and a clear sense of India’s future aspirations with regard to education, health, environment, etc. LokVidya will be an important vocational knowledge developed in India, which will be made accessible to students through integration into vocational education courses. Existing e-learning platforms such as DIKSHA, SWAYAM and SWAYAM PRABHA will also be leveraged for creating virtual labs so that all students have equal access to quality practical and hands-on experiment-based learning experiences.

### **12.0 Strengthening of PSSCIVE**

The PSSCentral Institute of Vocational Education will be considerably strengthened, through heavy investments in human resources and infrastructure, including technology, so that it is able to play the major role that it has in proliferating vocational education.

## **13.0 Implementation Plan**

### ***13.1 Review of the Status of Vocational Education and Perspective Planning***

A separate National Committee for the Integration of Vocational Education (NCIVE) to be set up, consisting of members from across Ministries and adequate representation of Sector Skills Councils, to review the long-term goals of the Policy and to work out the steps that need to be taken towards achieving them. It will coordinate detailing of the National Skill Qualification Framework (NSQF) to specifics for each of the disciplines/vocations/professions in different sectors.

### ***13.2 All Students to be Exposed to Vocational Education during Schooling***

Students will receive exposure and orientation to vocations in more than one sector during Classes 6-8, with preliminary hands on training provided at the school premises, so that they can make informed choices in Classes 9-12. They will be able to explore various occupations for making a choice for further education and training and a career choice. The National Curriculum Framework and Guidelines will be prepared by National Council of Educational Research and Training (NCERT), Ministry of Education, Government of India.

Part-time apprenticeships and skills training to be supplemented with education at school during the remaining time. The use of evening/night classes will be explored. It should be possible for students to exit from Class 12 with a holistic education that allows them to enter the world of work. Detailing of NSQF and RPL may be done by MoSDE and NCIVE keeping Ministry of Education (MHRD) in the loop.

### ***13.3 Awareness Generation for Improving Social Perception of Vocational Education***

Awareness programmes will be organised to change the general attitude towards Vocational Education. Public awareness to de-stigmatise vocational education will be done through social media. State Consultation meetings will be organised to promote vocational education and sensitise the HEIs in States/UTs on the importance of vocational education. Compilation and

sharing of good practices in vocational education shall be done for image building through digital media. Career counselling and guidance will be provided to children in Classes 9 to 12 so that children can make a career choice based on their interest, aspiration and abilities. Skill Based Aptitude Test (SBAT) will be introduced to provide guidance to the students for career choice.

### ***13.4 Curriculum and Assessment***

A suitable framework for curriculum and assessment will be created by the NCIVE in conjunction with the PSS Central Institute of Vocational Education (PSSCIVE) and with State-level institutions and Board of Apprenticeship Training. Problem based Learning (PBL) approach will be promoted in schools and colleges so that students are able to develop VET skills for innovation and entrepreneurship. Strengthening of School Education Boards to be done for carrying out the assessment of vocational courses, in collaboration with the industry.

### ***13.5 Teachers and Trainers***

Regular and part-time teachers and trainers will be engaged for imparting knowledge and skills in their respective vocations or provide only practical training, as the case may be. School complexes will assist these trainers to become comfortable in an academic environment, to handle students, and to comply with broader definitions of curricular and assessment frameworks in their work, through short term training courses provided at the PSSCIVE and State Training Agencies, including District Institutes of Education and Training (DIETs). The PSSCIVE will be assisted in developing teacher training modules and teacher handbooks by the Departments of Education within universities that are engaged in teacher preparation, and by the State governments through State Council of Educational Research and Training (SCERTs), DIETs, State Institutes of Vocational Education (SIVEs) and the schools themselves, in order to train the requisite numbers of teachers. Short term training courses for this purpose must be designed and prepared by leading educational institutions and shared widely, both online and offline, through the SCERTs and the DIETs. External trainers, who are experts in their vocations, can also be invited to train local teachers at Cluster Resource Centres (CRCs), Block Resource Centres (BRCs) and DIETs. Pre-service Programme for preparing Vocational Teachers/Trainers in selected job sectors

will be introduced by National Council of Teacher Education (NCTE) in consultation with MoSDE, All India Council for Technical Education (AICTE) and University Grants Commission (UGC). Professional development programmes for vocational teachers/trainers will be developed by National Council for Teacher Education (NCTE).

Vocational Teachers Training programmes for promoting new learning methods (experiential learning, digital tools, like Massive Open Online Courses (MOOC's), flipped learning and virtual learning methods will be organised. The NCIVE can explore options to cater to the training needs of large numbers of external, part-time faculty as well as regular teachers.

### ***13.6 Strengthening PSSCIVE and the State Level Infrastructure for the Provision of Vocational Education***

The PSSCIVE will need considerable strengthening, through heavy investments in human resources and infrastructure, including technology, so that it is able to play the major role that it has in proliferating vocational education. Similarly, strengthening of State-level institutions, including SIVEs to be done through a new and more coherent strategy, involving all relevant institutions and new institutions where needed. New institutions to be created in each State by the NCIVE.

### ***13.7 Courses ranging from Local Arts to New Technologies***

States/UTs will independently take up encouragement of the local arts and craft among the school children by designing suitable courses. The local artisans would be involved for providing training in such arts and crafts. States will develop their own framework for this and share with Ministry of Education (MHRD) within one year. NCERT and SCERTs will develop online resources for teaching-learning material for this. Vocational courses which will cater to the new and emerging skill demands of the industry, particularly for the Industry 4.0, Artificial Intelligence, Robotics, and Internet of Things (IoT) will be developed.

### ***13.8 Strengthening School Education***

The vocationalisation of education will be expanded in all the government and government aided schools through *SamagraShiksha*. Skill Gap analysis may be

done by Ministry of Skill Development and Entrepreneurship (MoSDE). NCIVE may be set up by the Department of Higher Education. Forecasting future jobs in India and abroad along with skill gap analysis may be carried out by MoSDE and accordingly vocational courses for schools, college and university may be decided by NCIVE.

### **13.9 Vertical Mobility**

The Department of Higher Education will provide for vertical mobility of students undertaking vocational education at school level by offering similar courses in progression under Bachelor in Vocation (B.Voc.) and other undergraduate courses offered at higher educational institutions. Weightage/preference/reservation will also be provided to students who have cleared level 3 or 4 courses at school level for admission to higher level vocational /technical courses. Workshops involving key stakeholders for promoting vertical and horizontal mobility of students will be organised.

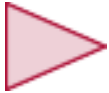
### **13.10 Open and Distance Learning to Expand the Coverage**

Open and Distance Learning (ODL) courses for improving the mobility and employability of students will be designed and promoted by National Institute of Open Schooling (NIOS). NIOS will cater to the dropouts from the formal system through the ODL courses. The curriculum for the NIOS must be largely aligned with that of NCERT. Syllabus and learning material must be designed keeping in mind the specific needs of students who access the NIOS process e.g. students with disabilities, students in vulnerable circumstances, students who have dropped-out and wish to complete their school education. Beside NIOS, Board of Apprenticeship Training should explore offering stand-alone vocational courses in affiliated schools in ODL mode and develop suitable assessment and certification mechanism.

*Current System*

*Key Changes*

Integration of vocational education from Class 9 onwards, with limited vocational exposure



Integration of vocational education from Class 6 onwards for providing vocational exposure to all students

Vocational Education from Grade 9



Vocational education from Grade 6 for career education and community and work based learning.

Career guidance and counselling



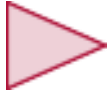
Career guidance and counselling with student support system

Limited linkage with community and industry



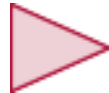
Community and industry partnerships for vocational exposure through informal internship programme

Limited choice of subjects



Students will be given increased flexibility and choice of subjects including vocational subjects.

No framework for learning outcome based assessment and evaluation



Framework and guidelines for learning outcome based assessment and evaluation.