

Implementation, Issues and Solutions: A Mixed Methods Study on NSQF Vocational Education in Schools

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Abstract: India's educational system is undergoing a paradigm shift towards skill-based learning. The education system is experiencing a significant shift to meet the skill-oriented needs of the twenty-first-century workforce. The National Education Policy (NEP 2020) emphasizes strongly on vocational education as a means to integrate theoretical knowledge with practical skills, targeting that at least 50% of students enrolled in higher education and in schools will have experience with vocational training by 2025. This policy also emphasizes the necessity of integrating vocational studies into regular education to overcome the social-status hierarchy that surrounds them. Thus, a landmark initiative in this direction is the implementation of the National Skill Qualification Framework (NSQF) which provides a road map to learners to pursue vocational education having clear and transparent framework for guiding their career progression.

It is widely acknowledged in India that general education, vocational education, and training are treated as distinct verticals with little to no interaction between them. As a result, young people are hesitant to pursue vocational education and training because it is assumed that doing so will prevent them from obtaining advanced degrees and credentials. As a result, vocational education was seen as less valuable than traditional schooling. Pathways for learning and advancement are usually unclear or non-existent, especially in the case of vocational education and training. Neither vertical nor horizontal mobility are specifically addressed. The NSQF will make the progression pathways transparent to address the issues of inequality and disparity in qualifications. This will allow employers, students, and institutions to know exactly what students can and cannot do after completing a particular course. Each institution has its own length of curriculum requirements for admission and title, and the outcomes of different degrees differ from one another. The NSQF's credit accumulation and transfer system will allow people to move between education, vocational training, and employment at different stages of their lives according to their needs and convenience. Students can transition out of the classroom and obtain some practical experience in the workplace and then return to school to earn credentials that will help them advance in their chosen field.

Keywords: NSQF, NEP 2020, 21st Century Skills, On Job Training, Vocational Skills

INTRODUCTION:

As part of the nationwide Skill India Mission, the Department of Education in Delhi initiated NSQF implementation in government schools in 2015. Vocational education programs were implemented in secondary schools under the integrated Samagra Shiksha scheme to enhance students' employability. In 2015, the NSQF program was introduced in 273 government schools in Delhi, with an emphasis on classes IX–XII. At the school, each NSQF level is associated with a class (for example, Level 1 in Class IX to Level 4 in Class XII). The corresponding curricula is developed in collaboration with partnership with Sector Skill Councils to meet National Occupational Standards. Since 2015, schools have been receiving NSQF grants and assistance from the Delhi Directorate of Education to implement vocational courses (such as those in IT/ITeS, retail, electronics, healthcare, etc.). A substantial number of these schools (approximately 114) in District South West are received NSQF grants to operate vocational programs. It is essential to assess the program's operational effectiveness after a decade of implementation.

Considering these elements, the purpose of present study is to assess the implementation of the NSQF program in District South West schools, identify strengths and challenges in existing practices, and gather feedback from key stakeholders. In doing so, the study will offer useful information about how well the local goals of the NSQF are being achieved. The results will be used to assess whether the program is on track to meet the holistic, skill-integrated education vision of NEP 2020 or whether mid-course adjustments and extra assistance are required.

Thus, the present study specifically seeks to identify strengths and challenges in the implementation of NSQF program in schools while suggesting recommendations for improvement in the current practices related to NSQF.

Objectives of the Study:

1. To identify the challenges faced by HoS, Vocational Education Trainers, and Students during implementation of NSQF scheme
2. To suggest measures to enhance the efficacy and implementation of NSQF scheme

RESEARCH DESIGN AND METHODOLOGY

The study employed a descriptive research design using a mixed-methods approach. It is fundamentally a field-based assessment of an ongoing program, aiming to describe the Challenges regarding NSQF implementation in schools. The descriptive design is appropriate as the objective is not to test a hypothesis but to gather factual data and stakeholders' perceptions about how NSQF is unfolding in the real education setting.

A. Population

The population of the present study was comprised of all the secondary-level (IX-XII) government schools in District South West, Delhi that have implemented NSQF vocational education programs. As of the academic year 2024-25, there are 114 government schools in the district reportedly receiving NSQF grants.

B. Sampling

Given the size of the population (114 NSQF-implementing schools in the district south west), a random sampling technique was employed to select a representative proportion of schools and respondents. Approximately 20% of the schools were taken as the sample for the present study. In total, the sample consisted of 22 schools including 22 principals (or their representatives), 22 vocational education trainers, and 160 students. The sampled schools offered trades such as Information Technology, Retail, Automobile Technology, Healthcare, and Beauty & Wellness among others.

C. Tools and Techniques used for data collection

Multiple tools were developed to collect data, each designed to gather relevant information from specific respondent groups. The tools were developed with the help of experts in the related field to ensure content validity and appropriateness. The tools used in the present study are mentioned below: -

- Questionnaire for Heads of Schools (HOS)
- Questionnaire for Vocational Education Trainers (VET)
- Questionnaire for Students opting vocational subjects/streams

D. Tool Administration and Process of Data Collection

The tools were administered using a combination of in-person and using Google Forms to ensure accessibility and convenience for the respondents. One to one discussion was also conducted as per the requirement of the study.

E. Data Analysis

The analysis of collected data was carried out through mixed methods analytical approach, incorporating both quantitative and qualitative techniques for data analysis to accomplish the research objective.

DATA ANALYSIS AND INTERPRETATION:

Objective No 1: To identify the challenges faced by HoS, Vocational Education Trainers, and Students during implementation of NSQF scheme.

A. Challenges in Implementing the NSQF Program

The study revealed several significant challenges encountered by stakeholders—including Principals/Heads of Schools, Vocational Education Trainers, and students—during the implementation of the NSQF framework.

B. Challenges Reported by Principal/ Heads of Schools

Principals and Heads of Schools highlighted the following major issues:

- Principals and heads of schools stated that the most important problems are delayed funding, not having enough money for student transportation and snacks, and not having enough training on the job. There aren't enough skilled and regular teachers either, which shows that schools have a hard time finding and keeping good teachers. According to all of the respondents, the biggest problems for vocational teachers are delayed funding, not enough transport and refreshments for students, not enough on-the-job training and less compensation (500 per lecture). These problems make it harder for students to get real-world experience and make teachers less motivated. People think positively about NSQF, but it is hard to put into action because there isn't enough money, infrastructure, or skilled teachers.

C. Challenges reported by Vocational Education Trainers (VETs)

- All of the VETs revealed that the most important problems were delayed funding, restricted transport and refreshments, a lack of on-the-job training, and poor compensation). These problems make it harder for students to learn and less likely for trainers to want to teach. Maximum trainers were concerned about how often their students came to class. Many of vocational education trainers stated that working with businesses is hard. VETs say there is lack of trained trainers. Many VETs were apprehensive about trainers changing often.

D. Challenges reported by Students

- Most of the students said that the absence of NSQF-related books in libraries was the biggest problem, making it hard for them to get learning materials outside of class. Many of said they didn't have the right infrastructure, and they didn't have the right lab equipment. Learning gaps might happen when there isn't enough time for training or lectures and when there aren't enough trained teachers. It also makes things harder when assistance materials are sent out late or when there aren't enough study resources. Poor communication skills and not getting enough guidance were also difficulties that were brought up, along with infrastructure and training. These demonstrate that students could need additional help with soft skills and career planning to get ready for work. Students said they were unhappy with the lack of NSQF-related texts, lab equipment, delayed study materials, and not enough training.

Objective No2: To suggest measures to enhance the efficacy and implementation of NSQF scheme.

SUGGESTED MEASURES FOR IMPROVING THE IMPLEMENTATION OF THE NSQF SCHEME

All principals and heads of schools unanimously agree on the following key measures required to strengthen the NSQF program better, and ensure its effective implementation.

A. Recommendations by Head of Schools (HOS)

All of the Principals and Heads of Schools agreed on four important changes to NSQF program:

- Appointment of full-time vocational trainers:
The shortage of qualified and stable vocational teachers affects the continuity and quality of training. The appointment and regular posting of full-time vocational trainers would improve instructional consistency and enhance student engagement.
- Increase in NSQF financial allocation:
Enhancing the overall NSQF budget would enable recruitment of better-qualified trainers, facilitate stronger industry linkages, and expand opportunities for students to receive meaningful hands-on training and internships.
- Timely release of funds:
Authorities should ensure the timely disbursement of funds so that vocational education activities—especially transportation, refreshments, and on-the-job training—can be organized systematically without delay or disruption.
- Strengthening industry partnerships:
Improved collaboration with industry partners would enhance workplace exposure, improve practical learning experiences, and increase employability prospects for students.

B. Recommendations by Vocational Education Teachers

Vocational Teachers (VETs) unanimously support six key recommendations, indicating that there are critical issues requiring immediate attention for the successful implementation of the NSQF programme:

- Due to the high turnover among vocational instructors, the recruitment and placement of permanent faculty should be prioritised to ensure continuity, improve instructional effectiveness, and maintain student engagement.
- An increase in the overall allocation of programme funds is essential to enhance the quality of vocational education.
- Improvement and strengthening of Vocational Training Partners (VTPs) is necessary to ensure better coordination, monitoring, and service delivery.
- Timely distribution of funds must be ensured to prevent disruptions in programme operations and planned activities.
- The Department should formulate a clear and timely policy decision regarding student internships and industry partnerships to provide practical exposure and skill training.
- Transportation facilities should be provided for guest speakers, industry visits, and other vocational events to support experiential learning.

C. Recommendations by Students

Students strongly supported each of the key recommended adjustments to the NSQF programme. Their feedback highlights several important areas that require improvement for better implementation and outcomes:

- Students emphasized the need for hiring and posting qualified, experienced, and permanent vocational teachers. The shortage of trained and stable faculty negatively affects learning quality and disrupts classroom continuity. Having regular faculty members with real world experience would increase student engagement and enhance instructional quality.
- Students expressed a strong need for improved infrastructure to support hands-on vocational learning.
- They stressed the importance of receiving study materials on time.
- Students requested consistent guidance, counselling, and mentoring to support their educational and career pathways.
- Students shared that the NSQF curriculum should include modern and industry-relevant subjects such as Artificial Intelligence, Medical-related vocational courses, and Personality Development to increase employment prospects and workplace readiness.

CONCLUSION:

The National Skills Qualifications Framework (NSQF) was one of the first initiatives the Delhi Government took to make sure that school lessons were in accordance with the needs of skill development. The findings of this study indicate that the NSQF program has made considerable progress in the district during the past 10 years since its initial implementation. There has been a lot of growth in the number of students who sign up for and learn about the NSQF program. Students in NSQF courses are getting more confident, involved, and purposeful in their studies, in addition to obtaining important job skills. School administrators and vocational trainers are very much in favour of the project because they think it will meet the needs of all students and make school more relevant. The

NSQF in schools is doing its main job as a "quality assurance framework" by helping pupils learn skills that are useful in the real world. But there are problems that need to be fixed, such not having enough teachers, delays in getting money, and gaps in infrastructure. The program will have a bigger impact and last longer if vocational training relationships are improved, industry collaboration is increased, and resources are made more available.

This study underscores a crucial lesson: the implementation of a policy like NSQF at the local level requires continuous assistance, evaluation, and adaptation beyond mere initial adoption. The accomplishments of South West A's schools, which include motivated students, brilliant young people, and dedicated teachers, show what works. It is in keeping with the NEP's demand that academic and vocational streams not be clearly segregated, but there is still work to be done to reach this goal. With more work, the NSQF program in Delhi's schools will grow even more. This will help create a generation of students who are skilled, flexible, and able to deal with the problems of the 21st century economy and society. In conclusion, the district's NSQF implementation has moved from an idea to a reality, moving vocational education from the edges of the curriculum to a more central role.

Suggestions: The following suggestions are made to encourage vocational education in District South West.

- Collaborate with local industries and institutions to provide internships, apprenticeships, and guest lectures.
- Offer regular professional training for vocational teachers through ITIs, polytechnics, or industry partners.
- Improve infrastructure by establishing modern vocational labs and shared "Skill Labs."
- Ensure timely grants, study materials, and digital resources such as e-content and virtual simulations.
- Strengthen career guidance to support students with information on higher education, jobs, and entrepreneurship.
- Improve administration through timely fund distribution, appointment of full-time staff, and clear action plans.
- Form Vocational Education Advisory Committees involving alumni, professionals, and community members.
- Introduce new and relevant vocational subjects such as AI, Medical, and Personality Development.

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