



16th CIVIL SERVICES DAY
APRIL 21, 2023

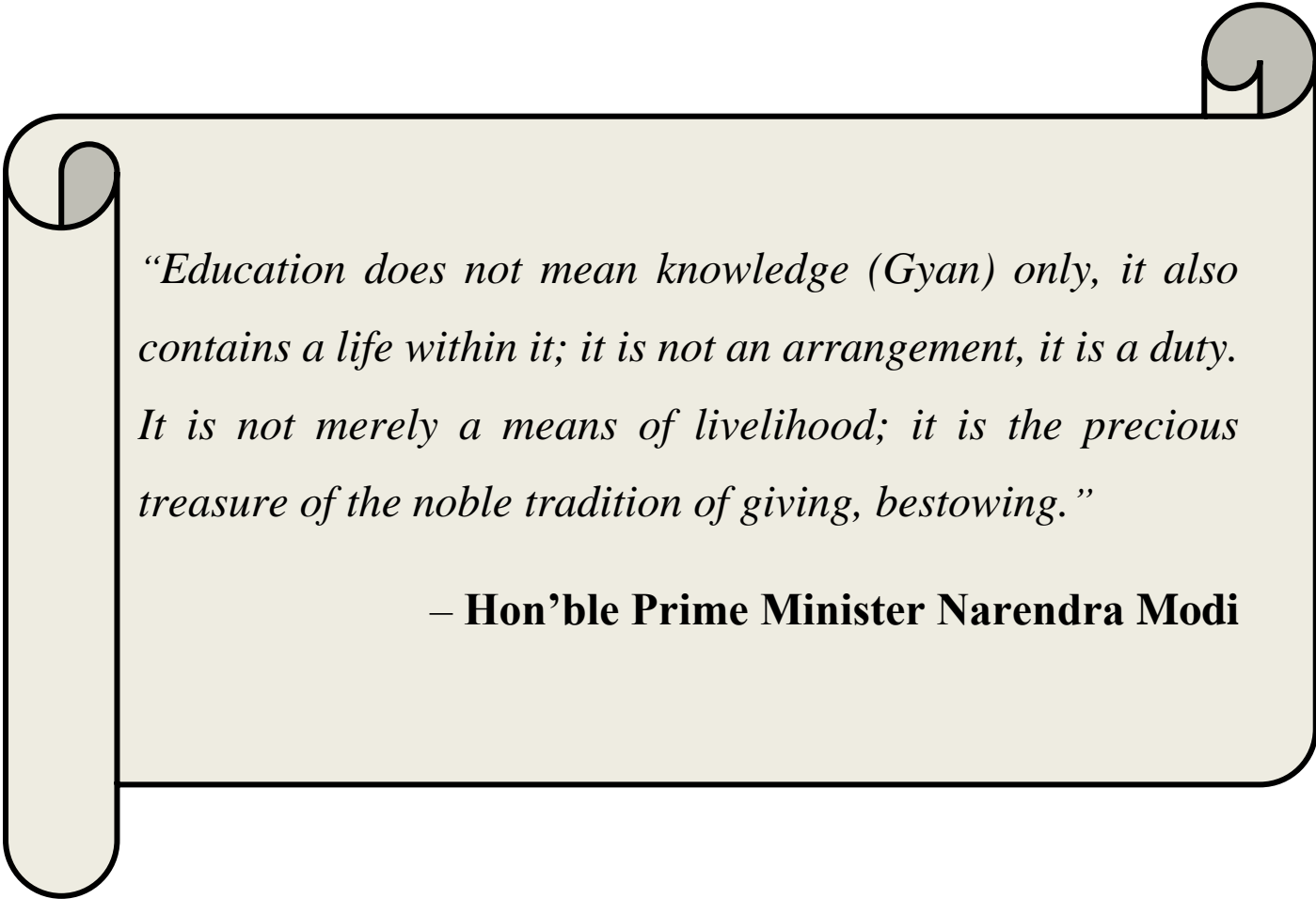


PRIME MINISTER'S AWARDS

**IMPROVING QUALITY
OF EDUCATION -
IMPROVING OUTCOMES
THROUGH VIDYA
SAMIKSHA KENDRAS**

TABLE OF CONTENTS

COMPOSITION OF SESSION	1
BACKGROUND	2
INTRODUCTION TO VIDYA SAMIKSHA KENDRA (VSK)	3
OPERATIONAL MECHANISM	5
BUDGETARY ALLOCATION	6
SERVICE IMPROVEMENT.....	8
SUCCESS STORIES	9
WAY FORWARD.....	15
DISCUSSION POINTS	17
LIST OF ABBREVIATIONS.....	18



“Education does not mean knowledge (Gyan) only, it also contains a life within it; it is not an arrangement, it is a duty. It is not merely a means of livelihood; it is the precious treasure of the noble tradition of giving, bestowing.”

– Hon’ble Prime Minister Narendra Modi

COMPOSITION OF SESSION

Breakaway Session	Improving Quality of Education – Improving Outcomes through Vidya Samiksha Kendras
Chair	Shri Dharmendra Pradhan Hon'ble Minister of Education
Panelists	Shri Sanjay Kumar Secretary Department of School Education & Literacy Government of India Dr. Ratankanvar H. Gadhvicharan State Project Director Samagra Shiksha Government of Gujarat Shri Sunny K. Singh Deputy Commissioner Changlang District Arunachal Pradesh Shri Anurag Behar CEO Azim Premji Foundation
Rapporteur	Shri Vipin Kumar Joint Secretary Department of School Education & Literacy Government of India

BACKGROUND

Samagra Shiksha, a comprehensive scheme for the school education sector was formulated with the overarching objective of enhancing school effectiveness with equitable learning outcomes and equal access to education. The scheme was launched in April, 2018 in accordance with the Sustainable Development Goals (SDGs) for education with a budget allocation of Rs 34,000 crore for FY 2018-2019. This integrated scheme is one of the largest schemes falling under the Ministry of Education which subsumes three erstwhile school education schemes, namely: Sarva Shiksha Abhiyan (SSA), Rashtriya Madhyamik Shiksha Abhiyan (RMSA), and Teacher Education (TE). Recently, the scheme was revised to facilitate certain provisions under the National Education Policy (NEP) 2020. The NEP 2020 was developed with the goal of advancing all dimensions of education and meeting the needs of stakeholders involved in plans and initiatives administered by the Ministry of Education.

In this regard, data serves as a critical element for successful implementation of various schemes. Subsequently, realising the significance of data, an integrated system was established named as Vidya Samiksha Kendra (VSK) to effectively collect, monitor, co-relate, and analyze data for timely actions to implement schemes.

“It gives great pride to see the success and development of Gujarat in all walks of life. I experienced this yesterday at Vidya Samiksha Kendra in Gandhinagar. The use of such a huge technology for our government primary school is a wonder for the world.”

“I would also ask the concerned ministries and officials of the Government of India to study Vidya Samiksha Kendra. The concerned departments of different states should also come to Gandhi Nagar and study the initiative.”

-Hon’ble Prime Minister on Vidya Samiksha Kendra

INTRODUCTION TO VIDYA SAMIKSHA KENDRA (VSK)

VSK is an institutional setup that enables integrated and shared ‘seeing’ for amplified data driven decision making and actions by stakeholders for academic and non-academic activities. With an aim to build the capacities of people or systems, VSK serves as a comprehensive system for timely tracking of progress of various education initiatives by the relevant stakeholders duly considering the following factors:

- **Timely Visibility to Progress and relevant metrics** - ‘Ability to See’ by different stakeholders on what’s going on
- **Insights about what’s happening** - ‘Ability to Make Sense’ of what’s working/what’s not
- **Coordination in driving improvements** - ‘Ability to Amplify Actions’ through timely, coordinated actions based on data & insights.

The VSK model deploys Artificial Intelligence and Big Data Analysis to provide insights of different educational programme implemented and break their individual operating system in order to facilitate integrated functioning towards a common goal.

Objectives of VSK

- To monitor the real-time status of various projects / activities under the ambit of Samagra Shiksha.
- To keep track of enrolled students along with learning outcomes, dropouts, support required by teachers and schools, etc.
- To monitor and track field level academic and non-academic activities at State level and also empower administrators and teachers to take data driven decisions.
- To identify and analyse improvement areas for decision making and implementation that needs urgent attention.
- To improve the academic performance of students and to enhance the accountability of teachers in schools and effective utilisation of the available resources.
- To setup centralized helpdesk for grievance redressal mechanism for stakeholders of School ecosystem.
- To conceptualise and develop Centralized dashboard providing the real-time performance indicators of Schools.
- To increase accountability among all the field level staffs / administrators & monitor the real-time status towards various projects components / activities under the ambit of School Education.

In order to attain its objectives, the VSK encompasses on the following features:

- **Administrative Reform** – enables the States with flexibility to prioritise their initiatives in education sector by providing a unified administrative structure. The entire process of school administration is digitalised under the VSK through development of software.
- **Capacity Building** – provides training to the field level staff and empowers the teachers in schools for effective utilisation of available resources and insights from data driven initiatives to facilitate improvement in academic performance for enhanced educational outcomes under the relevant programmes/schemes.
- **Digital Education** – enhances the learning process by ensuring availability of textbooks for Grade 3-12 through QR codes. In addition, efforts are being made to transform classes to digital classrooms by equipping with operational digital boards, DTH channels, Unified District Information System for Education (UDISE+) and so on.
- **Centralised dashboard** – develops centralized and localised dashboards that offers continuous and updated data insights on school performance indicators.
- **Tracking and monitoring** – records the information on enrolled students, learning at home, drop-outs information on child labour mainstreamed, out of school children, delivery of textbooks and uniforms, disbursement of scholarships / allowances, school-based assessment, support needed by teachers and schools, awards, recognition, etc with the help of student registry.
- **Realtime Online Attendance System for students and teachers** – puts in place an online attendance system ensuring attendance of students to schools regularly.
- **Learning Outcomes based Report Card for every student** – maps all assessment and uses AI based applications to automatically scan student's test score.
- **Data driven approach to enrolment** – uses Civil Registration System to determine if a student is eligible for admission to Grade 1. In addition, the administrative team is instructed to ensure that all qualified applicants are admitted.

OPERATIONAL MECHANISM

The ecosystem partners for the VSK comprises of Central/State Government organisations, private entities, civil societies (NGOs, NPOs, etc). For the effective implementation of VSK across the States, a dedicated team and a standard package has been formulated by the Central Institute of Educational Technology (CIET), a constituent unit of National Council of Educational Research and Training (NCERT) in collaboration with NIC. The standard package enables the software setup for the data integration and visualisation for programmes like Digital Infrastructure for Knowledge Sharing (DIKSHA), National Achievement Survey (NAS), Prime Minister's Overarching Scheme for Holistic Nutrition (POSHAN), Performance Grading Index (PGI), etc.

Use of Technology

Under the VSK model, technologies like Big Data Analytics, Artificial Intelligence and Machine Learning are deployed to amplify data-based decision making and actions by key stakeholders for academic and non-academic activities. Under the National Digital Education Architecture (NDEAR), National Vidya Samiksha Kendra Dashboard has been established for improved learning outcomes. The Dashboard displays a range of various other programmes in the digital education ecosystem. It provides access to insights from data relating to implementation status, coverage status, progress status, etc.

The Dashboard displays data relating to the following programme –

NISHTHA

NISHTHA is a capacity building programme aiming at “Improving Quality of School Education through Integrated Teacher Training”

DIKSHA-ETB & e-Content

Under VSK, the Energised Text Books are equipped with QR code which provides access to eContent on the DIKSHA app

MICRO-IMPROVEMENTS

Aims at making the improvement process accessible, simple and achievable for teacher and staff in the education system

PM POSHAN

PM POSHAN provides one hot cooked meal at the government and government aided schools from 2021-22 to 2025-26

National Achievement Survey (NAS)

A nationally representative large-scale survey of student's learning provides a system level reflection on the effective of school education.

PERFORMANCE GRADING INDEX (PGI)

A tool to provide insights on the status of school education in states and UTs.

NIPUN Bharat

Launched as a part of NEP 2020, ensures that children learn through stories, plays, local art aiming at development of strong foundations for lifelong learning.

NCERT Quiz

Quizzes formulated on NCERT DIKSHA with focus on individuals

UDISE+

A tool to provide insights on the status of school education in states and UTs.

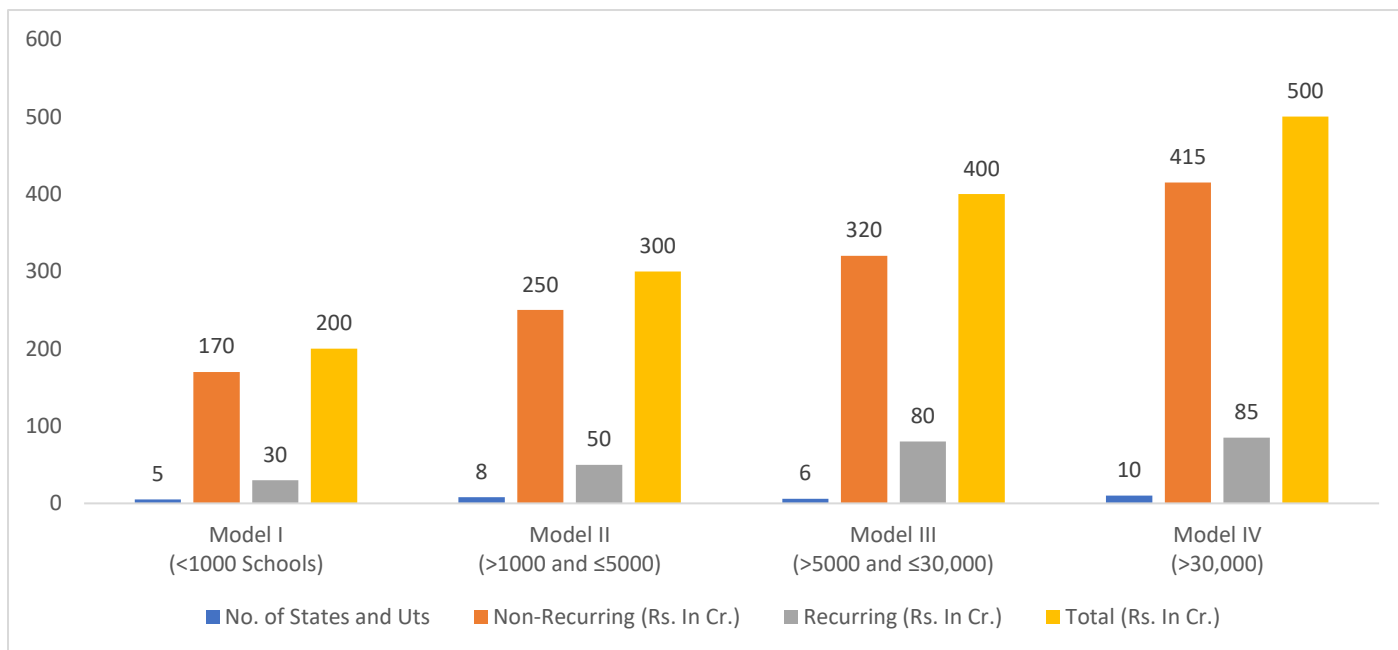
National Curriculum Framework (NCF)

A consultative process for developing curriculum frameworks of teaching practices, education structure, etc across schools in India.

BUDGETARY ALLOCATION

For the effective establishment and implementation of VSK in States/ UTs, a budget of Rs 2.00 Crore to 5.00 Crore is allocated based on no. of schools.

The distribution of budget to States/UTs is shown in the figure below:



Note:

Model I (<1000 Schools)	Andaman & Nicobar Islands, Chandigarh, Daman & Diu & Dadra & Nagar Haveli, Lakshadweep, Puducherry
Model II (>1000 and ≤5000)	Arunachal Pradesh, Goa, Ladakh, Manipur, Mizoram, Nagaland, Sikkim, Tripura
Model III (>5000 and ≤30,000)	Delhi, Haryana, Jammu & Kashmir, Meghalaya, Punjab, Uttarakhand
Model IV (>30,000)	Andhra Pradesh, Assam, Bihar, Chhattisgarh, Jharkhand, Karnataka, Tamil Nadu, Telangana, Uttar Pradesh, West Bengal, Andhra Pradesh, Assam, Bihar, Chhattisgarh, Gujarat, Jharkhand, Karnataka, Tamil Nadu, Telangana, Uttar Pradesh, West Bengal

SERVICE IMPROVEMENT

From Enrolment to Improving Attendance in Government Schools

Increase in students regularly attending school

Improving Governance through Monitoring

Promote seamless communication, coordinated efforts for learning activities, assimilation of information, data analysis and actionable insights to trigger responses across levels

From Data Analysis to Actionable Insights

Use data findings to add checks and balances, improve accountabilities for the gradual improvement of data quality over time

Improving Credibility of Data, thereby Improving Efficiency in the System

Improvement of existing apps/interfaces to make them user friendly and improve process efficiencies.

From Data Collection to Data Analysis

Real time dashboards and reports to share data analysis, insights, triggers and action points at all levels.

From Attendance to Improving Learning Outcomes

Achieving grade appropriate learning outcomes for every student in the State

SUCCESS STORIES

Vidya Samiksha Kendra in Gujarat

During his visit to Vidya Samiksha Kendra in Gandhinagar (Gujarat) in April 2022, the Honourable Prime Minister Narendra Modi emphasised on the need to replicate the VSK model to other States. Recognising the value of technology in education, PM stressed that VSK has the ability to bring substantive changes in the field of education across the country. With an impact on 1.15 crore students and improvement in learning outcomes, VSK were recipient of PM Awards 2021 under the Innovation State category.

In 2021, a dedicated state of art building for VSK was built equipped with cutting edge technology. The initiative claims that two substantial video walls are used by 50 carefully chosen and trained teachers to deliver ongoing instruction. Annually, these centres collect and analyse 500 crore data sets through Daily online attendance of students and teachers, Centralised summative and periodic assessments, Praveshotsav 2.0 (School Enrolment Drive), Gunotsav 2.0 – School Accreditation, etc. VSK are expected to benefit about 54,000 schools in the State, 4.5 lakh teachers, 1.15 crore students and in later stages the entire state. An increase of 26% was observed in attendance within one year of its implementation. To improve access to high-quality education at COVID 19, live sessions were held and were demonstrated on Facebook and YouTube. Additionally, the Government of Gujarat Education Technologies Limited (GET), the first Ed-Tech company entirely owned by the government, was founded with the goal of providing students in government schools access to high-quality e-content. The model has been deemed a Global Best Practice by the World Bank and is recognised by UNICEF, OECD, British Deputy High Commissioner, and Cambridge University for its impact

Recently, based on the suggestion by the Prime Minister to use technology for sensitising people on calories intake, the VSKs have integrated the Mid-Day Meal (MDM) data along with enrolment data.

Data driven Initiatives Taken Up Under the Vidya Samiksha Kendra



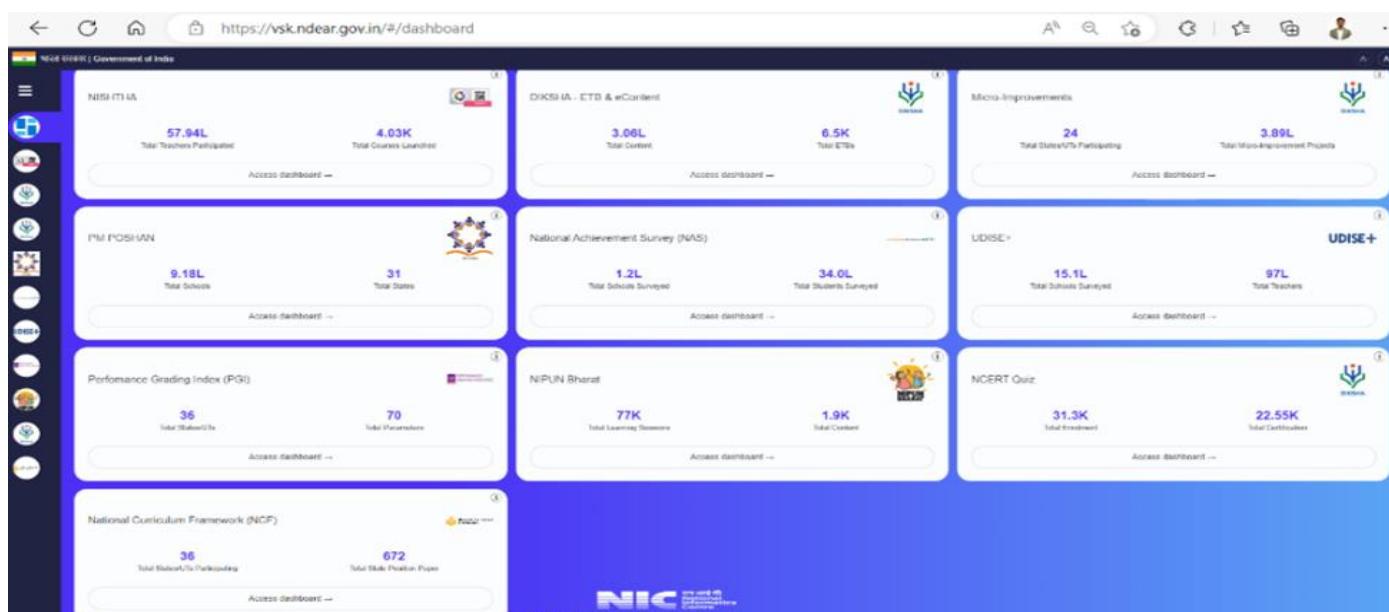
S. No	Initiatives	Description
1	Praveshotsav 2.0	It integrates the data of Health Department with UDISE Based Child Tracking System of Education Department from 2019. The children eligible for admission to Grade 1 in 2019 were found using birth records from Civil Registration System (CRS) data from 2013 and 2014. This led to 100% enrollment in 2019-20, 2020-21 and 2021 as opposed to some untracked students in the preceding years.
2	Online Attendance of Students and Teachers	Daily Online Attendance System tracks the attendance of all students and teachers across the state. From 2021, Biometrics attendance through face recognition software were introduced. 54,273 Government and Private Schools receive daily online attendance of 11.4 million students and 3.92 lakh teachers.
3	Foundational Literacy & Numeracy Skills	All 6,45,000 Grade 2 students in Gujarat's 32,500 government schools are given a statewide diagnostic assessment of their reading and numeracy skills. Throughout all phases of evaluation and remedial work, data entry was used to keep track of every student.
4	Centralised Summative and Formative Examinations for Grades 3 to 12	Introduced Centralized Summative assessments across all Government Schools for Grade Appropriate Learning Outcomes. The introduction of a uniform timetable, question bank, and evaluation method was followed by the review of all answer sheets by teachers from different schools. For nearly 5 million students, results are being centrally entered.
5	Gunotsav 2.0 - School Accreditation	The Gujarat School Quality Accreditation Council (GSQAC) was established, and approximately 500 school inspectors were recruited from among the teachers. By incorporating the finest methods from other nations, GSQAC created objective standards for school accreditation. During 2020-21, Gujarat became the first State to certify all 32,500 of its government primary schools.
6	School Administrative Software	To lessen the non-academic burden of head teachers, an integrated school administrative software was created and effectively implemented.
7	Dashboards	Country's first National Digital Education Architecture (NDEAR) framework based; comprehensive school education dashboard has been installed at VSK. The Dashboard was created using artificial intelligence, big data, and machine learning to make key indicators visible and accessible.
8	Mission Schools of Excellence	The State has started a \$1 billion project called Mission Schools of Excellence to upgrade 15,000 government primary schools and 5,000 government secondary schools with better civil infrastructure, digital infrastructure, manpower, strict oversight, and a dedicated evaluation and accreditation system.
9	Technology Enabled Learning Initiatives	During COVID 19, Gujarat Education Technologies Limited (GET) offered government school students free access to high quality e-content. Alongside this, home learning initiatives such as QR coding, TV tutorials, and virtual classes were taken up.

2) NDEAR Compliant Vidya Samiksha Kendra at CIET-NCERT

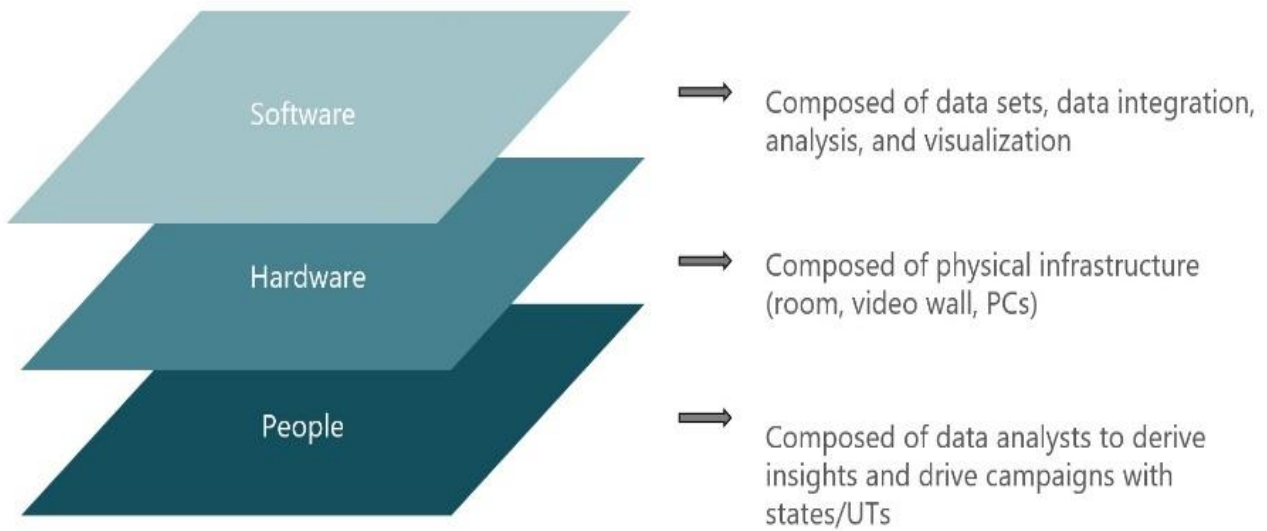
The Vidya Samiksha Kendra (VSK) at the Central Institute of Educational Technology (CIET), National Council of Educational Research and Training (NCERT), is a flagship initiative that aims to enhance the quality of education in India. This N-VSK is built as per NDEAR (National Digital Education Architecture) framework.

It was launched on 29th July, 2022, by Hon'ble Union Home & Cooperation Minister, Shri Amit Shah, in the presence of Hon'ble Union Education & Skill Development and Entrepreneurship Minister, Shri Dharmendra Pradhan.

The N-VSK has been built to assess performance of various education programs across the country and provides customized recommendations and strategies to help states & UTs improve their teaching-learning processes and education delivery services, and ultimately enhance student access, participation and learning outcomes.

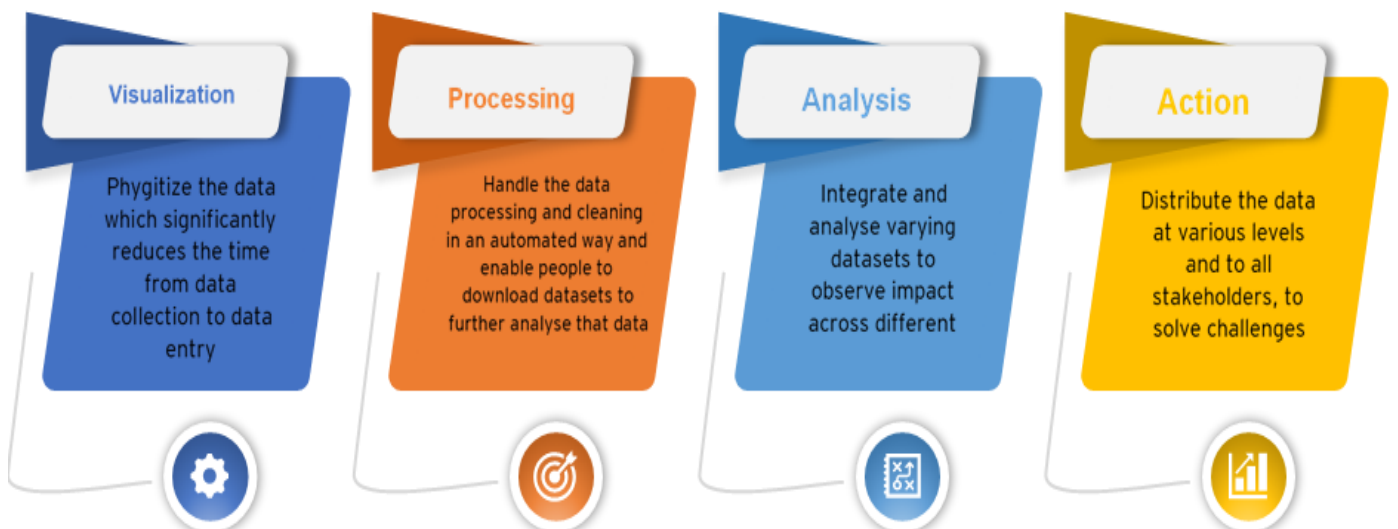


NDEAR VSK comprises of largely 3 components



5

Benefits of N-VSK:



Currently N-VSK tracks the following centrally sponsored schemes on the national dashboard:

S. No	Programs	Description
1	PMeVidya-DIKSHA	Energised Textbooks having QR code linked content to textbooks (Impact analysis of students using e-Learning solutions)
2	NISHTHA	Enrolment and completion data of teachers signing up for professional learning courses)
3	PM Poshan	Sponsored Mid-Day meal being served/not served in schools across the country)
4	UDISE+	Unified District Information System for Education - Management Information System
5	PGI	Performance Grading Index for benchmarking KPIs for improving Education Outcomes
6	NAS	National Achievement Survey for assessing grade and age-appropriate Learning Outcomes)
7	NIPUN Bharat	An initiative for improving Foundational Learning and Numeracy
8	NCF	National Curriculum Framework
9	Micro improvements	Emulating best practices for wide scale improvement of classroom performance
10	NCERT Quiz	Open Online quiz for students



Since NVSK leverages the “NDEAR compliant” approach that makes the software, open-source, CIET-NCERT is now offering a “VSK starter pack” as a common building block to the entire nation (all States/UTs). CIET-NCERT with support from various partners has also enabled various states/UTs in establishing their VSK by leveraging the Starter Pack. The VSK Starter Pack includes the following components:

1. Open-source Software: Ready to install open-source software that enables data ingestion, analysis, and visualisation.
2. Hardware: Specifications and guidelines
3. Human Resource: Skillsets and guidelines.

The National Education Policy (NEP) 2020 lays emphasis on the need to invest in creation of open, interoperable, evolvable, public digital infrastructure in the education sector that can be used by multiple platforms and point solutions, to solve for India’s scale, diversity, complexity, and device penetration.

On this note, NDEAR compliant Vidya Samiksha Kendra helps in integrating various data sets and breaking through the barrier of operating in silos and help to effectively leverage different entities towards a common goal.

WAY FORWARD

Aligning with the international principles for betterment of the human kind, Vidya Samiksha Kendra is recognised as a best practice by both national and international organisation for transformative impact on the education system. Acting as a “Force Multiplier”, it has amplified the existing capabilities of individuals or systems. In Gujarat, it has impacted more than 54,000 schools, 4 lakh teachers, and 1.15 crore children. It thus marks the beginning of data driven decision making and actions by significant stakeholders for academic and non-academic activities, ultimately enhancing learning outcomes.

Going forward, it is envisaged that along with the current programs the VSK will also onboard other flagship initiatives/schemes such as PM Schools for Rising India (PM SHRI), Scholarship scheme, GIS based mapping of schools, resources etc.

Further, VSK will enable micro level planning such as:

- What students are learning
- Whether what they learn responds to parents', community, and country needs and aspirations (relevance)
- How well resources are used to produce results (internal efficiency)
- What the main factors influencing learning are; and
- Which aspects of the system require improvement

If the data show some groups' learning outcomes are low due to their location, ethnicity, religion, or disability, measures can be taken to provide additional resources, such as teachers or books, aimed at improving their achievement.

In the coming years, the role of VSK will be monumental not just in improving student learning outcomes and enhancing service delivery models but also pave way for nation building in a very coherent and seamless way.

As on 13 March, 2023, the VSK starter pack software has been successfully handed over to 12+ States and to be handed over to many more States/UT's in the coming weeks, The Starter Pack offered by NCERT includes the following components:

- Open-source Software: Ready to install open-source software that enables data ingestion, analysis, and visualization.
- Hardware Specifications
- Human Resource Specification

Although the VSK model is a significant educational endeavour, its implementation requires infrastructure and cutting-edge technology. The lack of competent personnel to manage the structure is one challenge that could hinder the initiative's achievements. In addition, the use of new technology brings with it the problem of negligence to human element as also highlighted by the PM during his visit to VSK in Gandhinagar. In order to preserve the human factor, the "read along" function should be incorporated together with the use of electronic content when the VSK model is adopted. Currently, VSK model is effectively functioning in the state of Gujarat and MoU are signed with Gujarat and Uttarakhand. During his visit, the PM underlined that other states should also follow the lead and use the VSK model in order to enhance the learning outcomes and advancement in education sector. Thus, to transformative change in the education system according to the

international standards, data driven decision making and technological use should be implemented across the nation based on the VSK model.

DISCUSSION POINTS

- Balance between traditional approach and advanced technology approach
- Institutional inertia for successful transformation in education sector
- Holistic and Concrete Plan for execution of VSK
- Utilisation of VSK output for transforming education sector
- Spill over benefits to other initiatives in education as well as other sectors

LIST OF ABBREVIATIONS

S.No	Abbreviations	Details
1	CIET-NCERT	Central Institute of Educational Technology- National Council of Educational Research and Training
2	CRS	The Common Reporting Standard
3	DIKSHA	Digital Infrastructure for Knowledge Sharing
4	DTH	Direct To Home
5	Ed-Tech	Education Technology
6	ETB & e-Content	Energized Textbooks, Electronic content
7	FLN	Foundational Literacy & Numeracy
8	FY	Financial Year
9	GET	Gujarat Education Technologies Limited
10	GET	Gujarat Education Technologies Limited
11	GSQAC	Gujarat School Quality Accreditation Council
12	MDM	Mid-day meal
13	MHRD	Ministry of Human Resource Development
14	MoU	Memorandum of understanding
15	NAS	National Achievement Survey
16	NCF	National Curriculum Framework
17	NDEAR	National Digital Education Architecture
18	NEP	National Education Policy

19	NGO	Non-governmental organizations
20	NIC	National Informatics Centre
21	NIPUN Bharat	National Initiative for Proficiency in Reading with Understanding and Numeracy
22	NISHTHA	National Initiative for School Heads' and Teachers' Holistic Advancement
23	NPO	Not for profit organisations
24	OECD	The Organization for Economic Cooperation and Development
25	PGI	Performance Grading Index
26	PM POSHAN	Pradhan Mantri Poshan Shakti Nirman
27	PM SHRI	PM Schools for Rising India
28	QR-code	Quick Response code
29	RMSA	Rashtriya Madhyamik Shiksha Abhiyan
30	SDG	Sustainable Development Goal
31	SSA	Sarva Shiksha Abhiyan
32	TE	Teacher Education
33	UDISE	Unified District Information System for Education
34	UNICEF	United Nations International Children's Emergency Fund
35	UTs	Union Territories
36	VSK	Vidya Samiksha Kendra



सत्यमेव जयते

**DEPARTMENT OF ADMINISTRATIVE REFORMS AND PUBLIC GRIEVANCES
MINISTRY OF PERSONNEL, PUBLIC GRIEVANCES AND PENSIONS
GOVERNMENT OF INDIA**