



Ministry of Education
Government of India

DIKSHA - Learnings from India Experience

India's Ongoing Story of Digital Innovation in Education

Presentation by
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18th December 2020

India is big, diverse & complex



1.5 Million +
of Schools



20+
**Regional language
as a medium of
instruction**



60+
**Educational boards of
instruction across
country (central &
states)**



248 Million +
**# of Students in
schools**



156 Million +
**# of students in Govt
and aided schools**



92 Million +
**# of students in
private and other
schools**

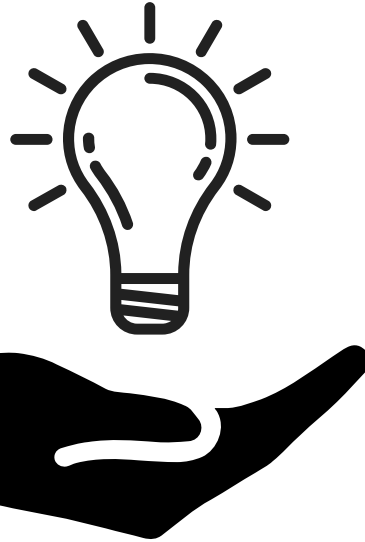


9.4 Million +
of Teachers

We have clear policies - National Education Policy (NEP) 2020

1

Enhance education system that contributes to an equitable and vibrant knowledge society, by providing high-quality education to all



2

Develops a deep sense of respect towards the fundamental rights, duties and Constitutional values, bonding with one's country, and a conscious awareness of one's role and responsibilities in a changing world

3

Instils skills, values, and dispositions that support responsible commitment to human rights, sustainable development and living, and global well-being, thereby reflecting a truly global citizen.

Which emphasize upon Access, Capability, Quality, Equity & Outcomes



Unique Capabilities

Recognizing, identifying them in each student.



Emphasize Conceptual Understanding

Rather than rote learning and learning-for-exams



Critical thinking and Creativity

To encourage logical decision-making and innovation.



Use of Technology

In teaching and learning, removing language barriers, for Divyang students, and in educational planning and management.

Respect for Diversity & Local Context



In all curriculum, pedagogy, and policy.

Equity & Inclusion



As the cornerstone of all educational decisions

Continuous Review

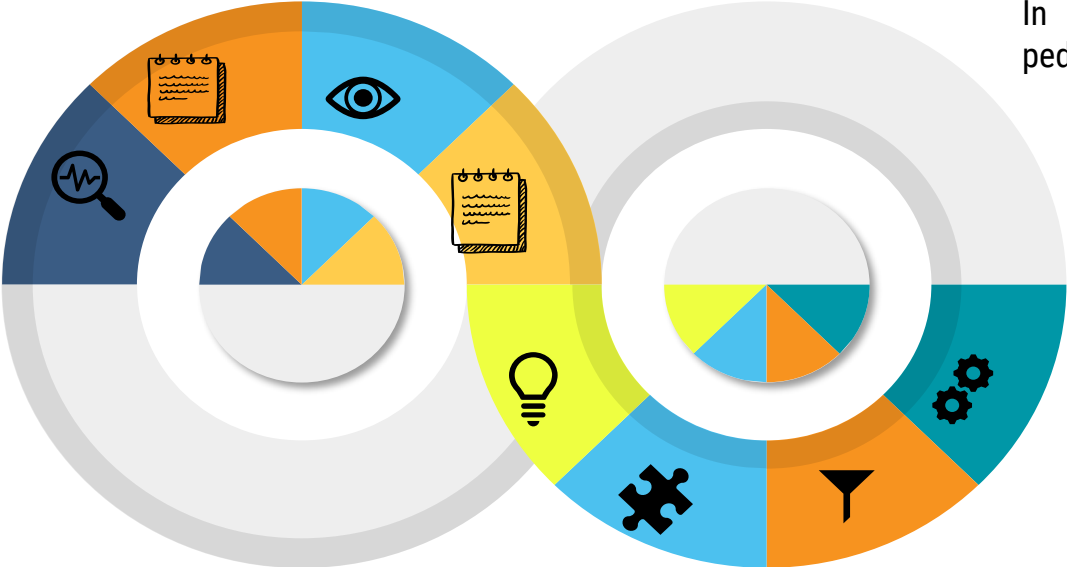


Based on sustained research and regular assessment by educational experts.

Community Participation



Encouragement and facilitation for true philanthropic private and community participation.



To implement these policies, we wanted digital innovations that can work at our scale, diversity & complexity

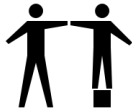


National Education Policy (NEP) 2020 has multiple provisions for inculcating and promoting digital innovations ... (1/2)



Content creation, digital repository, and dissemination

- Coursework, Learning Games & Simulations, item banks, TPD, virtual labs
- Augmented Reality and Virtual Reality apps,
- Gamification of Indian art and culture



Addressing the digital divide and equity

- Use of television, radio, and community radio;
- Removing language barriers - Content in all Indian languages;
- e-content for disabled students.



Training of teachers

- ICT integrated pedagogy
- How to become high-quality online content creators themselves



Promoting digital learning

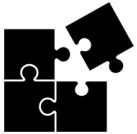
- Through different effective models of blended learning

NEP 2020 has multiple provisions for inculcating and promoting digital innovations ... (2/2)



Laying down standards

- Content
- Technology
- Pedagogy for online/digital teaching-learning
- Guidelines for e-learning by States, Boards, schools.



Mathematical and computational thinking

- Starting with the foundational stage itself, through use of puzzles/games
- Activities involving coding will be introduced in Middle Stage.



Other special areas for online learning

- Vocational courses
- Teaching of languages, and Knowledge of India
- Rich e-content for gifted children, open school, adult education, e-libraries, virtual/e-museums, etc.

We wanted a plug and play digital infrastructure that could work for all of India, and not just a specific solution

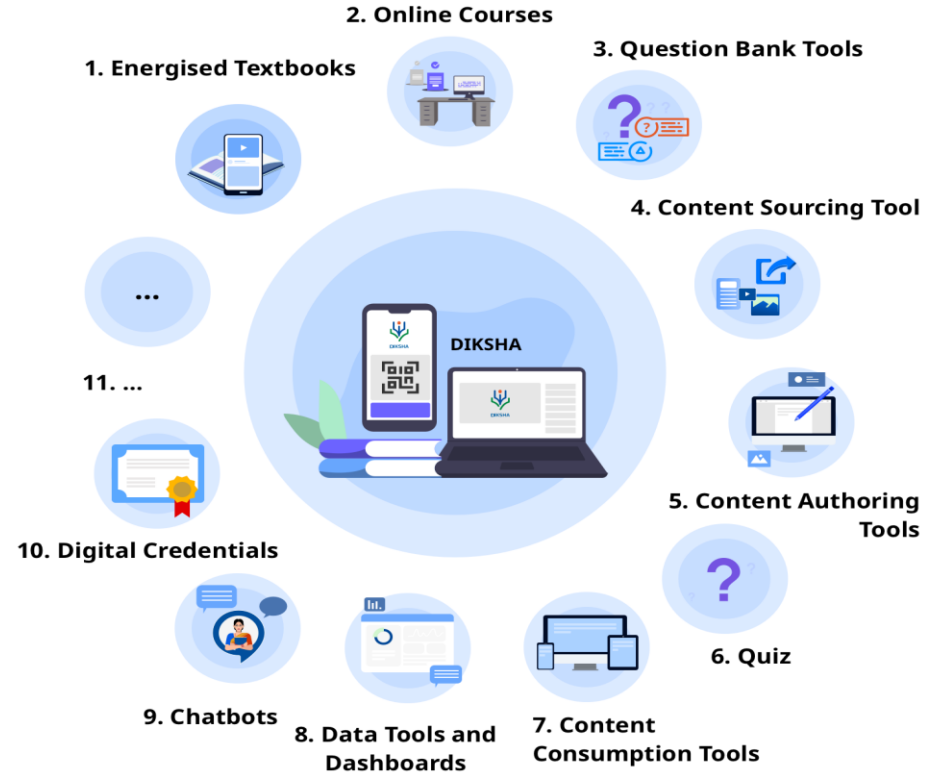


DIKSHA's building blocks were used for multiple use cases with complete sovereign control

LEARNING SERVICES
API Based
Microservices

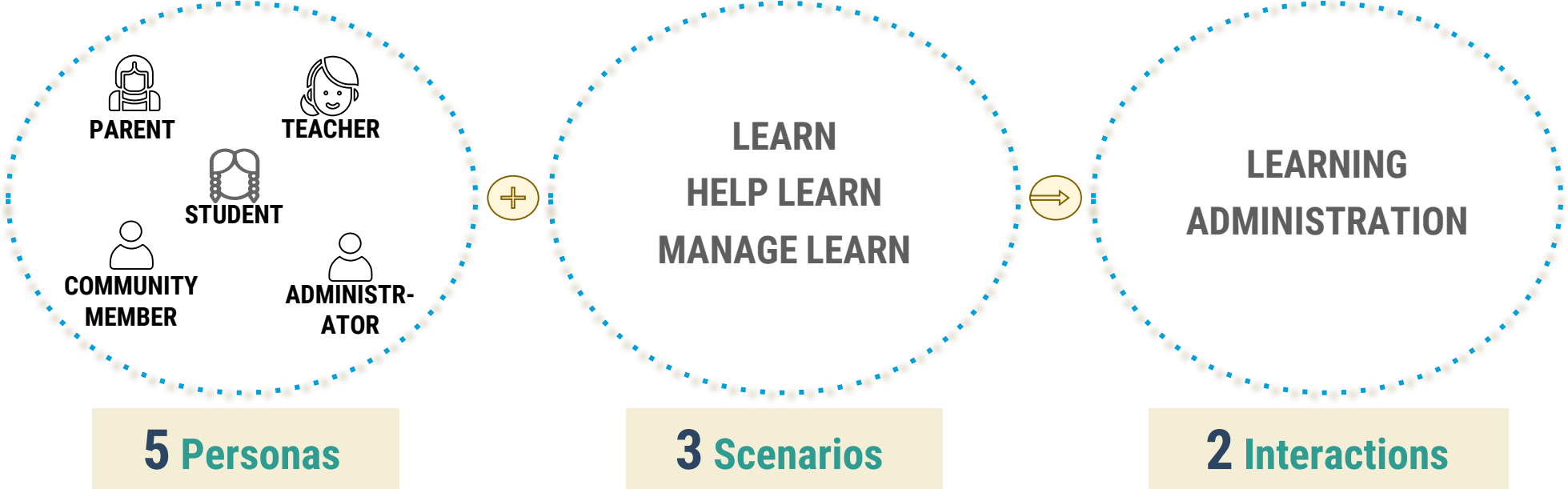


Building blocks



Use Cases

Catering to diverse scenarios and user types



Leading to unparalleled usage of the world's largest, most diverse school education platform

1.85 Billion +
Learning Sessions

15.9 Billion +
Learning Minutes



13.8 Billion +
Page Hits

30+
Languages

Resiliency during Covid shock: Multiple programs to continue learning & training

Energized Textbooks (ETB)



Physical Textbooks to 'Phygital' Textbooks

Content Sourcing



Sourcing high quality content in a controlled manner

National Quizzes

Interactive & competitive learning



PM eVidya

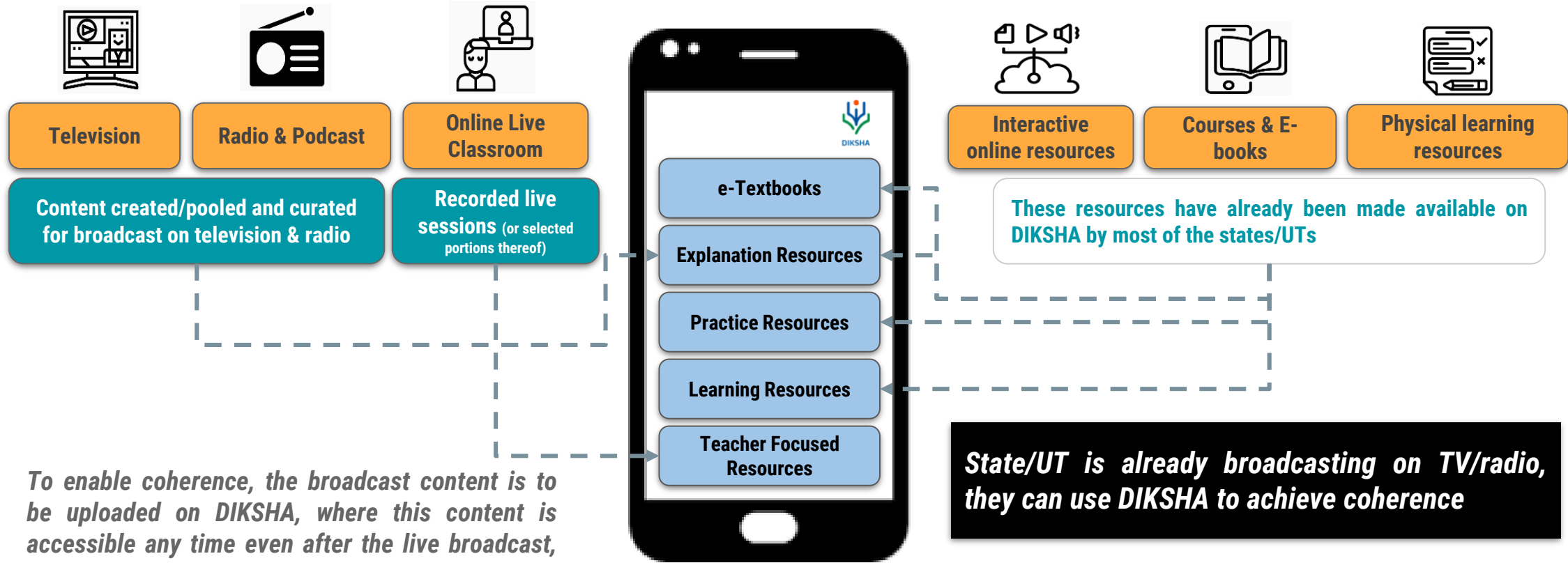
Aims to unify all efforts related to digital/online/on-air education to enable equitable multi-mode access to education



Digital Teacher Training

A nationwide capacity building programme for "Improving Quality of School Education through Integrated Teacher Training"

Coherent Access under PM eVidya program ensures inclusive, equitable access to education for all and also enabled our response to Covid



To enable coherence, the broadcast content is to be uploaded on DIKSHA, where this content is accessible any time even after the live broadcast, along with additional digital resources

Bridging of physical and digital worlds by 'energizing' textbooks...



**Instant, relevant, trusted help:
'Energised' textbooks with QR codes**

3500 +

Energized Textbooks with QR codes on DIKSHA

***600 Million + energized textbooks have
been printed and distributed across the
country***


180 Million + students

7 Million + teachers

...which lead to ease of access to relevant digital content across the nation and enable continuity of learning

State board, Grade 5th Textbook

ಅಧ್ಯಾಯ - 1
ಗುಣಕಾರ



R1G4B4

ನೀವು ಈ ಅಧ್ಯಾಯದ ಅಧ್ಯಯನದ ನಂತರ ಕೆಳಗಿನ ಸಾಮರ್ಥ್ಯಗಳನ್ನು ಗಳಿಸುವಿರಿ :

- 3-ಅಂಕಿಯ ಎರಡು ಸಂಖ್ಯೆಗಳ ಗುಣಲಬ್ಧವನ್ನು ಕಂಡುಹಿಡಿಯುವುದು.
- 4-ಅಂಕಿಯ ಸಂಖ್ಯೆಯನ್ನು 1 ಅಥವಾ 2 ಅಂಕಿಯ ಸಂಖ್ಯೆಯಿಂದ ಗುಣಿಸುವುದು.
- 5-ಅಂಕಿಯ ಸಂಖ್ಯೆಯನ್ನು 1 ಅಂಕಿಯ ಸಂಖ್ಯೆಯಿಂದ ಗುಣಿಸುವುದು.
- ಗುಣಕಾರ ಕ್ರಿಯೆಯನ್ನು ಅಧರಿಸಿದ ಸಮಸ್ಯೆಗಳನ್ನು ಬಿಡಿಸುವುದು.

ಗುಣಕಾರವು ಗಣಿತದ ಮೂಲ ಕ್ರಿಯೆಗಳಲ್ಲಿ ಒಂದು ಎಂದು ನಮಗೆ ತಿಳಿದಿದೆ. ಗುಣಕಾರವು ಪುನರಾವರ್ತಿತ ಸಂಕಲನ. ಎರಡು ಸಂಖ್ಯೆಗಳನ್ನು ಒಂದೇ ಬಾರಿಗೆ ಗುಣಕಾರ ಮಾಡಬಹುದು. ಗುಣಿಸಲ್ಪಡುವ ಸಂಖ್ಯೆಯನ್ನು 'ಗುಣಕ' ಎಂದು ಮತ್ತು ಗುಣಿಸುವ ಸಂಖ್ಯೆಯನ್ನು 'ಗುಣಕ' ಎಂದು ಕರೆಯುತ್ತೇವೆ. ಈ ಎರಡು ಸಂಖ್ಯೆಗಳ ಗುಣಕಾರದಿಂದ ಪಡೆದ ಸಂಖ್ಯೆಯನ್ನು 'ಗುಣಲಬ್ಧ' ಎಂದು ಕರೆಯುತ್ತೇವೆ.

ಗುಣಕ × ಗುಣಕ = ಗುಣಲಬ್ಧ

ಗುಣಕಾರದ ಗುಣಲಕ್ಷಣಗಳು

- 1) ಯಾವುದಾದರೂ ಒಂದು ಸಂಖ್ಯೆ ಮತ್ತು ಸೊನ್ನೆಯ ಗುಣಲಬ್ಧವು ಯಾವಾಗಲೂ ಸೊನ್ನೆಯಾಗಿರುತ್ತದೆ. ಉದಾ: $12 \times 0 = 0$, $8 \times 0 = 0$
- 2) 1 ಮತ್ತು ಯಾವುದಾದರೂ ಒಂದು ಸಂಖ್ಯೆಯ ಗುಣಲಬ್ಧವು ಯಾವಾಗಲೂ ಅದೇ ಸಂಖ್ಯೆಯಾಗಿರುತ್ತದೆ. ಉದಾ: $9 \times 1 = 9$, $6 \times 1 = 6$
- 3) ಗುಣಕ ಮತ್ತು ಗುಣಕದ ಸ್ಥಾನವನ್ನು ಬದಲಾಯಿಸಿದಾಗಲೂ ಅವುಗಳ ಗುಣಲಬ್ಧವು ಒಂದೇಯಾಗಿರುತ್ತದೆ. ಉದಾ: $4 \times 7 = 28$, $7 \times 4 = 28$.

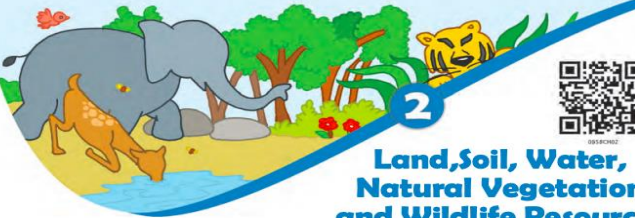
ಪುನರಾವರ್ತನ ಅಭ್ಯಾಸ

I ಗುಣಲಬ್ಧವನ್ನು ಕಂಡುಹಿಡಿಯಿರಿ.

1) 35×0	4) 1×235
2) 164×1	5) $0 \times 1,001$
3) 100×0	6) 1×55


1

NCERT, Grade 8th textbook



2

Land, Soil, Water, Natural Vegetation and Wildlife Resources



In a small village in Tanzania, Africa, Mamba gets up very early in the morning to fetch water. She has to walk a long way and returns after a few hours. She then helps her mother in the house and joins her brothers in taking care of their goats. All her family owns is a piece of rocky land around their small hut. Mamba's father can barely grow some maize and beans on it after toiling hard. This is not enough to feed their family for the whole year.

Peter lives in the heart of the sheep rearing region in New Zealand where his family runs a wool processing factory. Everyday when he returns from school, Peter watches his uncle taking care of their sheep. Their sheep yard is situated on a wide grassy plain with hills in the far distance. It is managed in a scientific way using the latest technology. Peter's family also grows vegetables through organic farming.

Mamba and Peter stay in two different parts of the world and lead very different lives. This difference is because of the differences in the quality of land, soil, water, natural vegetation, animals and the usage of technology. The availability of such resources is the main reason places differ from each other.

Let's do

Observe the land, type of soil and water availability in the region you live. Discuss in your class, how it has influenced the lifestyle of people there.

Do you know?

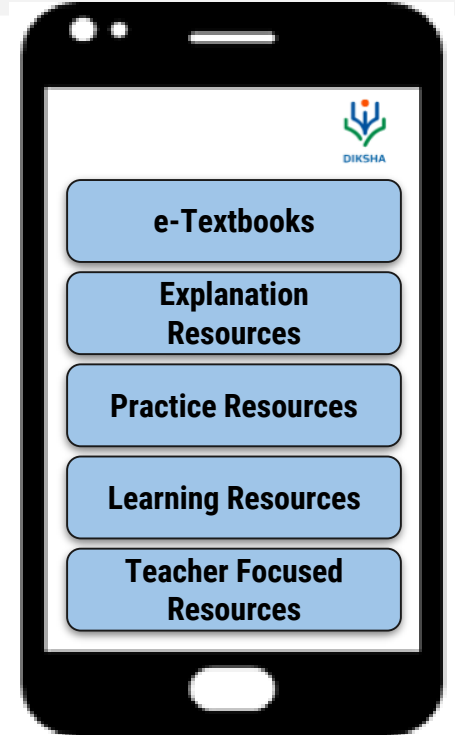
Ninety per cent of the world population occupies only thirty per cent of land area. The remaining seventy per cent of the land is either sparsely populated or uninhabited.

LAND

Land is among the most important natural resources. It covers only about thirty per cent of the total area of the earth's surface and all parts of this small percentage are not habitable.

The uneven distribution of population in different parts of the world is mainly due to varied characteristics

QR Code linking to relevant e-content (student and teacher facing content)



Digital Teacher Training has enabled continuity in training of teachers during Covid and is a world record in the making

18 Modules

Contextualised and translated in 10 regional languages for NISHTHA

3 Months

Program Time v/s Full last year



2.5 Million +

teachers trained at primary and upper primary level (grades 1-8)

Trained at **5% cost**
and **4x speed**

We also conducted a variety of assessments

5 Questions a Week (5QAW)

The screenshot displays a chemistry assessment interface. On the left, there is a periodic table titled "UNIT - Periodic trends in atomic properties". The table is color-coded by groups and periods. On the right, there is a navigation menu with tabs for "All", "Video", "Interactive", and "Docs". Below the tabs, there is a list of questions for various weeks of the year, such as "All Questions for the 3rd week of December (Science)". At the bottom right, there is a blue "Ask Tara" button with a chatbot icon.

5 questions are shared every week to **enhance higher order competencies of learners and connect learning with real life solutions**

Quizzes on DIKSHA

The screenshot shows a mobile app interface for a quiz challenge. The title is "Aryabhata Ganit Challenge 2020" by CBSE. There is a green "Join course" button. Below it, there is a "Last date to join 19/11/2020" notification. The interface includes sections for "Course details" and "Course modules". There is also a "Question Bank" section with options for "Science Question (English Medium)" and "Science Question (Hindi Medium)". An "Ask Tara" button is visible at the bottom right.

The banner features two quiz competitions. The top one is the "Discover Gandhi Quiz" launched on 2nd October, 2020, with a last date to participate on 30th January, 2021. The bottom one is the "National Yoga Quiz Competition" for "Yoga for Healthy Living". Below that is "KNOW OUR CONSTITUTION A Quiz". The banner includes logos for the Ministry of Education, Digital India, and DIKSHA.

Quizzes on **joyful mathematics, science, reading comprehension Constitution of India, Yoga, etc.** have been launched on DIKSHA

Quizzes promote **Interactive, engaging and competitive learning**

VidyaDaan - a program to source high quality content in a controlled manner leading to diversity in content

2

Central Organizations (NCERT and CBSE) doing VidyaDaan

14

States doing VidyaDaan

38,000+

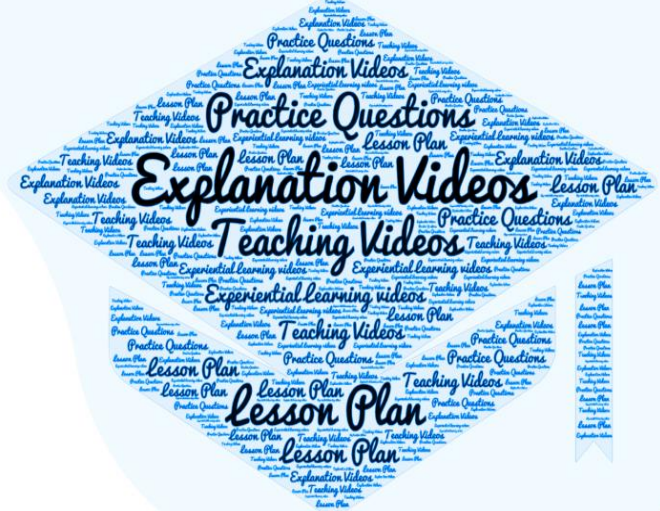
Digital content contributed through VidyaDaan

29,000+

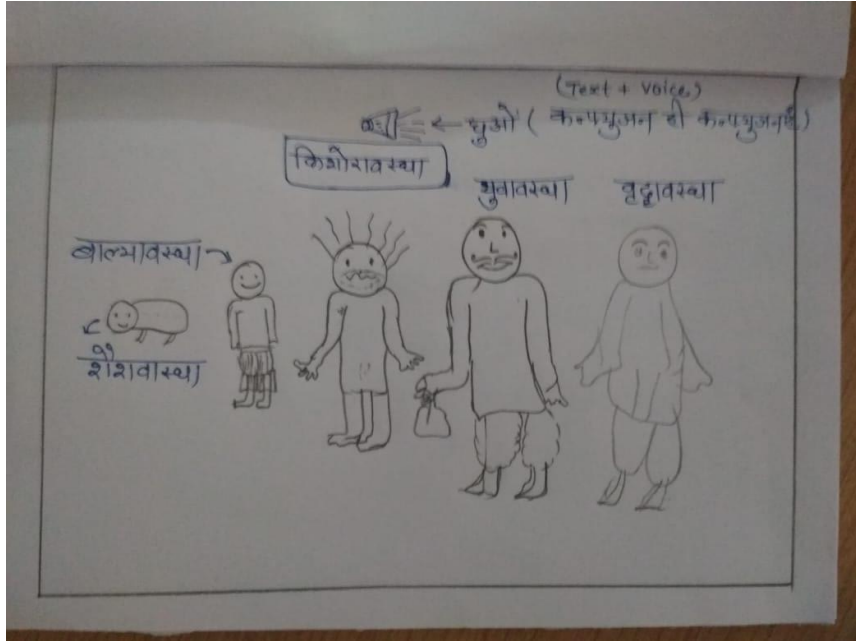
Digital content approved through VidyaDaan



A program of the nation, for the nation and by the nation to ensure continuity of quality learning



Teachers play a crucial role in content development (1/2)



Journey of a content starts with storyboarding which visualises creator's thoughts



Teachers pledging to pioneer the movement of teacher created content

Teachers play a crucial role in content development (2/2)



Experienced creators coach new content creators to develop digital content

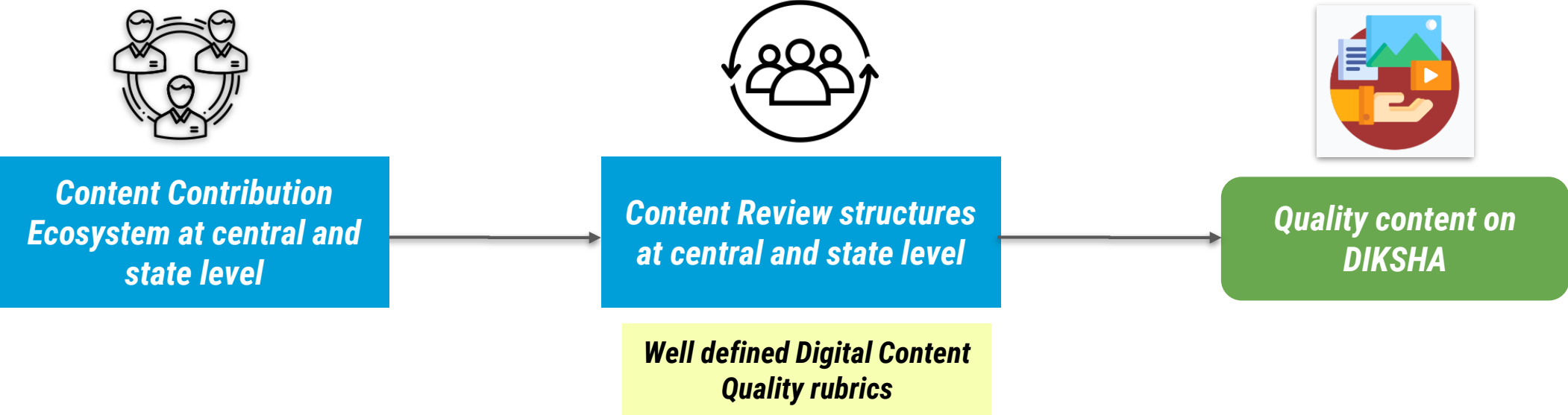


Dedicated subject matter experts thoroughly review the content as per the guidelines

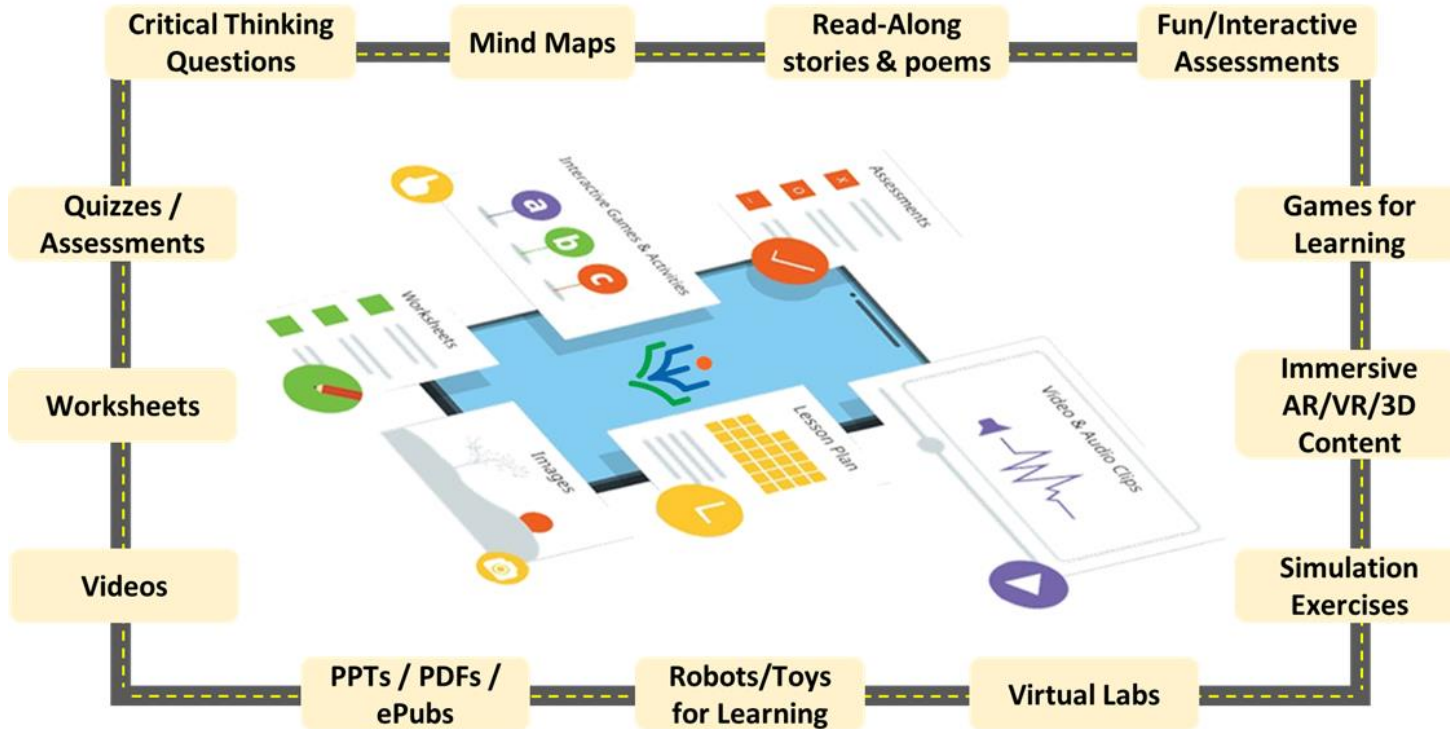


Felicitation of content creators and reviewers for their valuable contribution

Programs follow a well defined decentralised model of content contribution and review governed by central and state institutional structures to ensure quality



Leading to variety & diversity in content



1,40,000+ Content and Courses

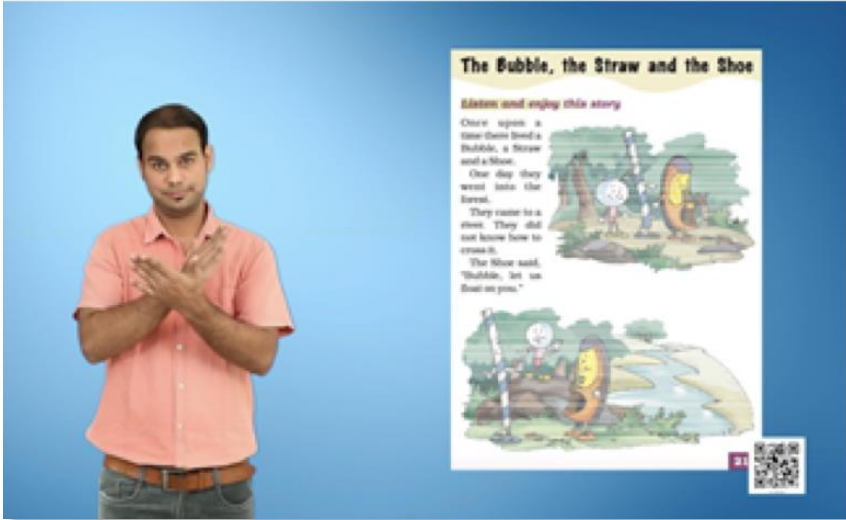
15000+ Organizations and Individuals contributed

40+ State institutions and Central Organizations

Content is available in 30+ languages

A journey from content to competence

...including content for Children With Special Needs



Content for hearing impaired in sign language



Content for visually impaired in Digital Accessible Information System (DAISY)

DIKSHA is built on free open source platform “SUNBIRD”
‘Made in India’, ‘Made for the World’



sunbird.org

github.com/project-sunbird

docs.sunbird.org

Built through collaborative PPP (Public Private Partnership)



Ministry of Education

Government of India

DIKSHA Programme Sponsor

विद्यया ऽ मृतमश्नुते



एन सी ई आर टी
NCERT

DIKSHA Programme Owner



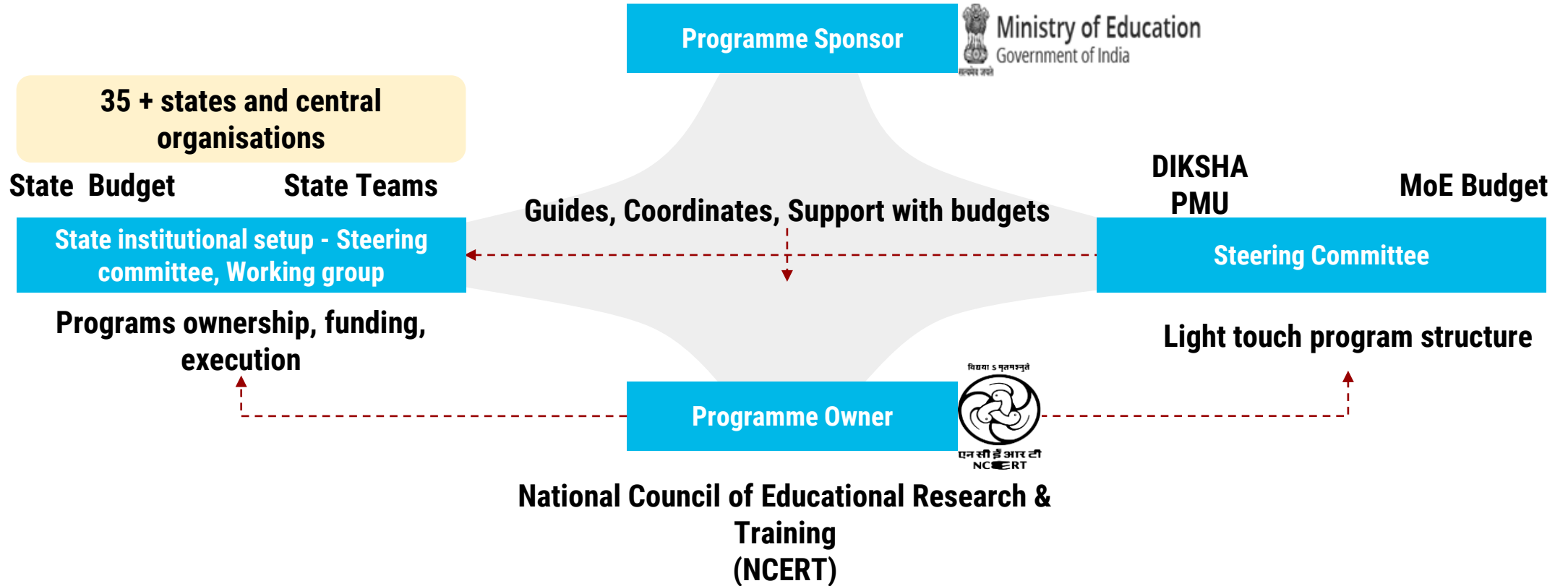
**EkStep Foundation:
Open-Source Technology and Program Management Partner**



**CENTRAL SQUARE
FOUNDATION**

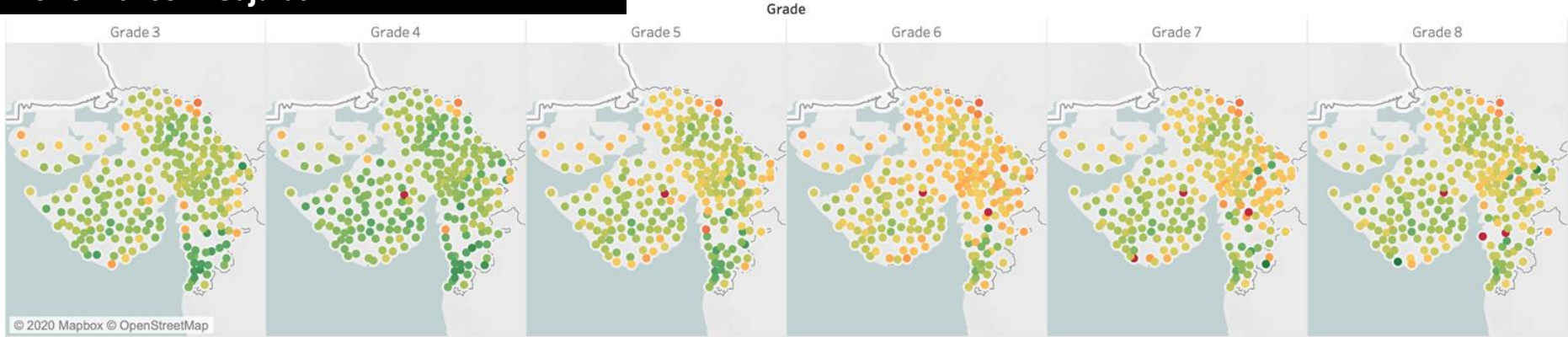
**Partner to Enable
Implementation**

Implemented through our existing federated and decentralised structure

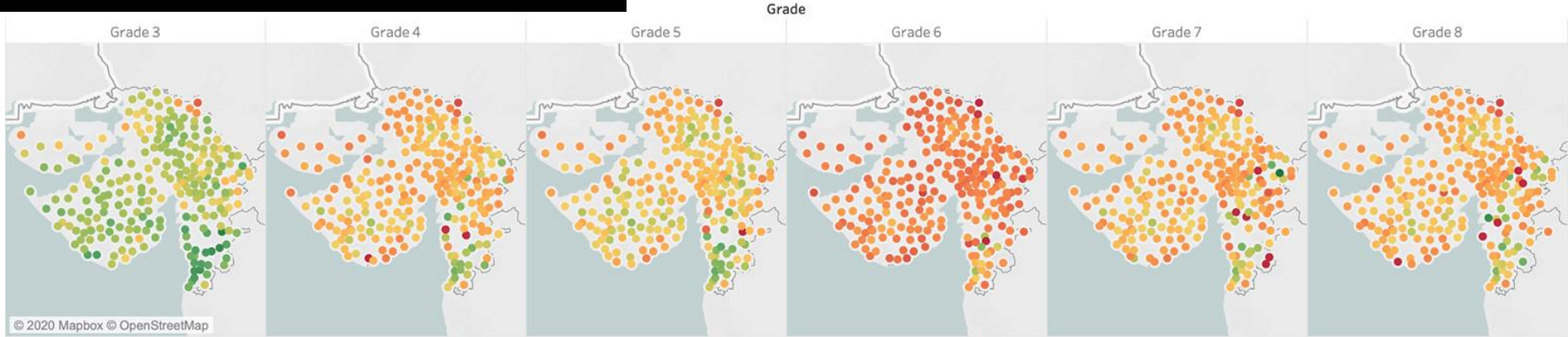


Allowing states like Gujarat to innovate and go micro to drive improvements

Performance in Gujarati



Performance in Mathematics



And, helping us see & monitor policy implementation and drive reforms



DATA FROM DIKSHA PROVIDES THE ABILITY TO SEE AND EMPOWER RELEVANT STAKEHOLDERS

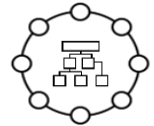
In Summary, here's *'the Recipe'* from our DIKSHA journey

- **Consider your Policies**



- **Take & Tweak** Technology to build/modify sovereign solution(s) as per sovereign control

- **Plug & Play (implement)** in the context of Programs & Budgets with accountability mechanisms & existing institutional structures



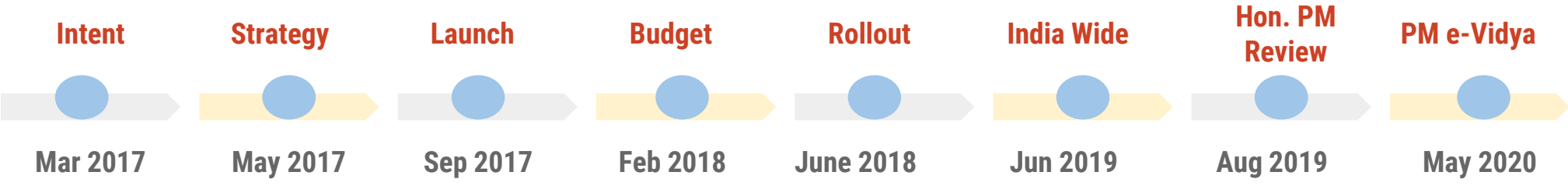
- **Measure & Improve** through Data (Ability to See) and navigate reforms to policy destination

You too can do this- Sovereign programs, Sovereign solutions, Ability to See to help you drive reforms and find your own path to meet your policy objectives



Appendix 1 - DIKSHA & Technology

DIKSHA - Journey so far



“DIKSHA is a customizable National Digital Infrastructure that states can use for their respective teacher-centric initiatives. Teachers will be able to use DIKSHA to access and create high quality teaching, learning and assessment resources for all subjects and levels in all Indian languages. DIKSHA aims to strengthen 'Our Teachers, Our Heroes' ”



Shri Prakash Javadekar
DIKSHA Strategy Paper
May 2017



Shri Venkaiah Naidu
National Teacher's Day
September 2017

On the occasion of Teacher's day, Hon. Vice President of India, dedicated **DIKSHA, A National digital Infrastructure for Teachers**, to the nation



Late Shri Arun Jaitley
Budget Speech
February 2018

“Technology will be used to upgrade the **skills of teachers through the recently launched digital portal DIKSHA**”




Nirmala Sitharaman
Union Finance Minister
May 2020


PM eVIDYA' programme will consist of '**DIKSHA**' involving e-content and QR coded energized textbooks for all grades and will be called as '**one nation, one digital platform**'.

DIKSHA is the “ONE NATION ONE PLATFORM” for School Education




Aatmanirbhar Bharat



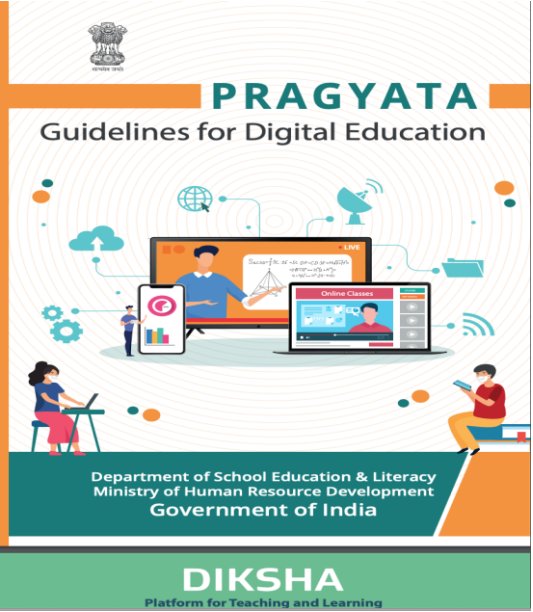
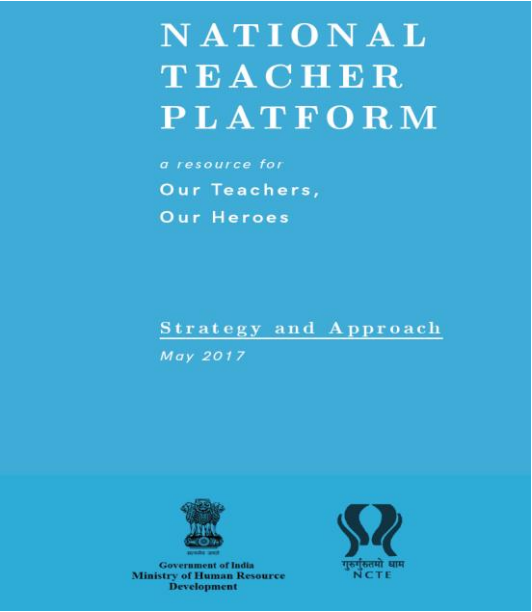
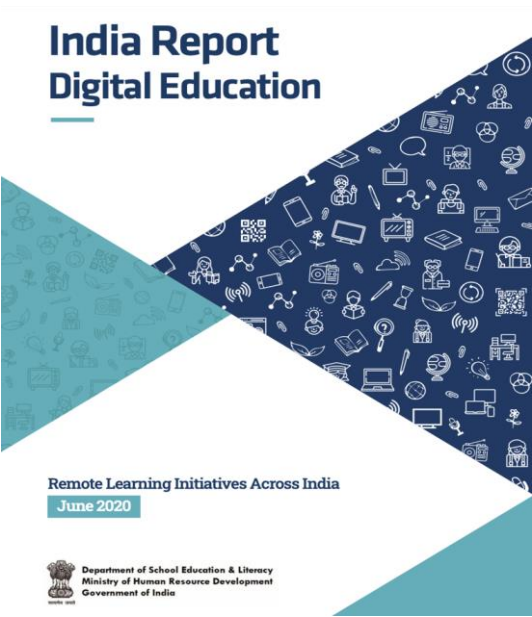
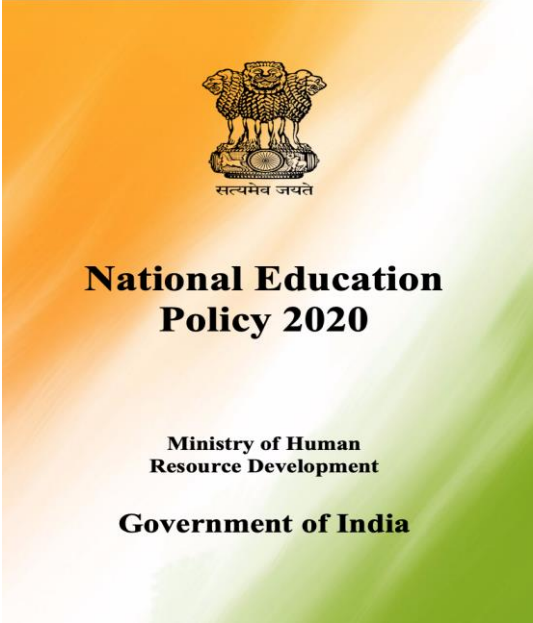
Technology Driven Education with Equity Post-COVID (1/2)



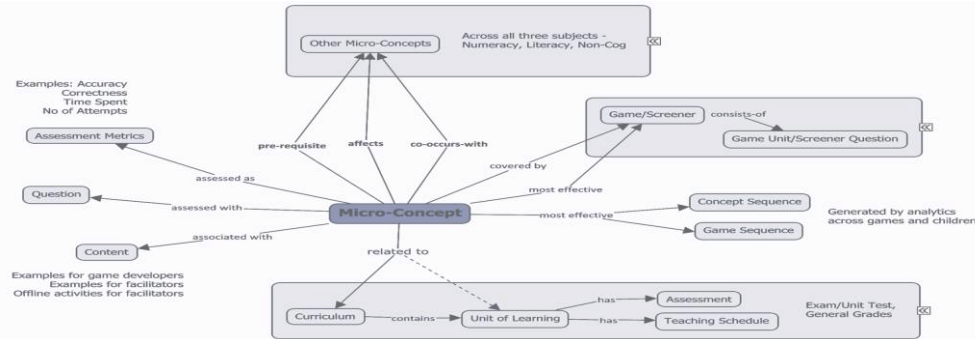
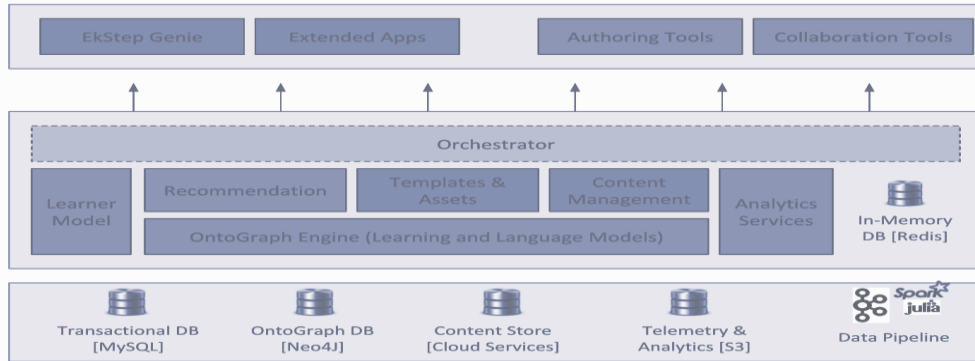
- **PM eVIDYA**- A programme for multi-mode access to digital/online education to be launched immediately; consisting of:
 - **DIKSHA** for school education in states/UTs; e-content and QR coded energized textbooks for all grades (**one nation, one digital platform**)
 - One earmarked TV channel per class from 1 to 12 (**one class, one channel**)
 - Extensive use of **radio, community radio and podcasts**
 - Special **e-content for visually and hearing impaired**
 - **Top 100 universities** will be permitted to automatically start online courses by 30th May, 2020

 @nsitharamanoffc  nirmala.sitharaman  nsitharaman

Key References

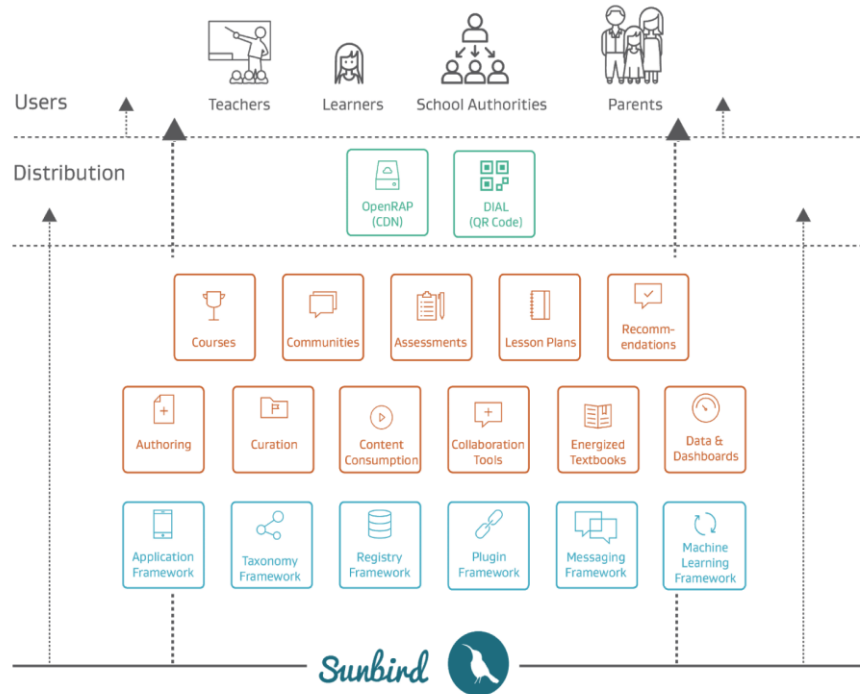


DIKSHA is built using strong technology architecture principles



- Unbundled not monolithic
- Microservices and API based
- Interoperable
- Evolvable
- Configurable
- Multi-tenanted
- Observable through data
- Scalable
- Resilient
- Extensible
- Privacy and security “by design”
- Allows unified system, but not uniform

DIKSHA is built keeping Indian requirements in mind



- Changing learning paradigm of micro-content, on-demand, continuous process of learning anytime anywhere
- Federal structure of India's education
- Scaling to entire population of India
- Diversity of languages, use cases, and contexts including learning domains beyond school education (skilling, health, financial literacy, etc)
- Addresses connectivity & device diversity
- Openness and interoperability for content, taxonomy, credentials, & data
- Ecosystem approach - participation of government, civil society and private organisations for coverage, inclusion, quality, and innovation
- Using data for smart policy making, implementation, monitoring for continuous evolution

SOLUTIONS LAYER	Teacher Learning	Early Learning	School Education	School Administration	Leadership Education	Capacity Building	...
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PERSONALIZATION LAYER	Adaptive Learning	Contextual Recommendations	Quick Remediations	Smart Creation & Curation	Personalized Lesson Planning	...
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MEASUREMENT LAYER	Telemetry	Open Data	Aggregations	Monitoring	Predictions	Modeling	Data Locker	...
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CONTENT LAYER	Content	Courses	Assessments	Books	Worksheets	Quizzes	Certificates	...
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KNOWLEDGE LAYER	Taxonomy	Wordnet	Creation & Curation	Concept Map	Tagging	Assets	Templates	Hard Spots	...
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INFRA LAYER	Identity	Auth	Registry	Attestation	Security	Community	Notification	Rating	Indexing	...
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Appendix 2 - Programs

PM eVidya, a comprehensive initiative for addressing the COVID-19 challenges pertaining to teaching and learning in the country **was announced on 17th May 2020**



PM eVidya is a programme for multi-mode access to online education for ensuring inclusive and equitable access to education...

DIKSHA- One nation, One digital platform for school education

One class, One channel – 12 channels of PM eVidya

SWAYAM MOOCs for school and higher education

Use of **radio**, community radio and podcast

IITPAL for IIT-JEE / NEET preparation

Digital Education for the **differently-abled**

Manodarpan

Initiative for psychosocial support of students, teachers and families

National Curriculum

New National Curriculum & Pedagogical framework for school, early childhood and teachers

Foundational Literacy & Numeracy (FLN)

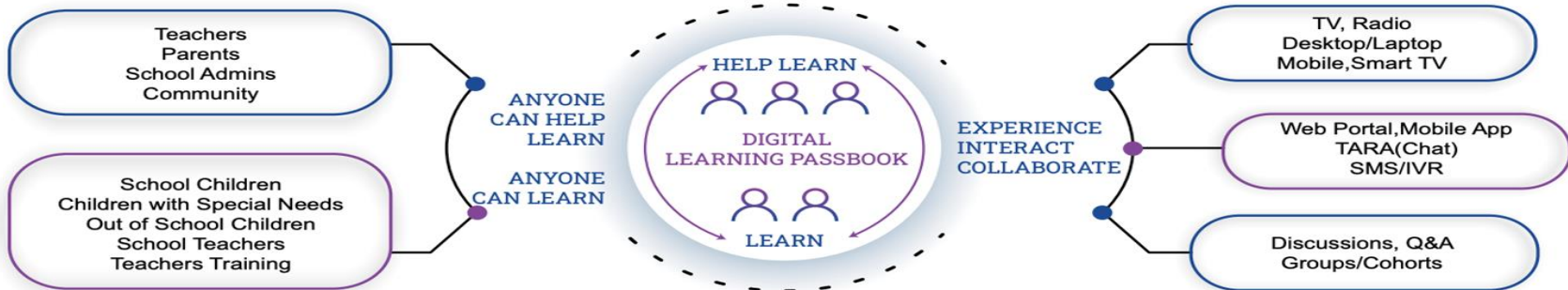
National FLN Mission for ensuring that every child attains Learning levels and outcomes in grade 5 by 2025

... wherein DIKSHA has played a key role in “Coherent access- inclusive, equitable access to education” while offering flexibility of synchronous & asynchronous options

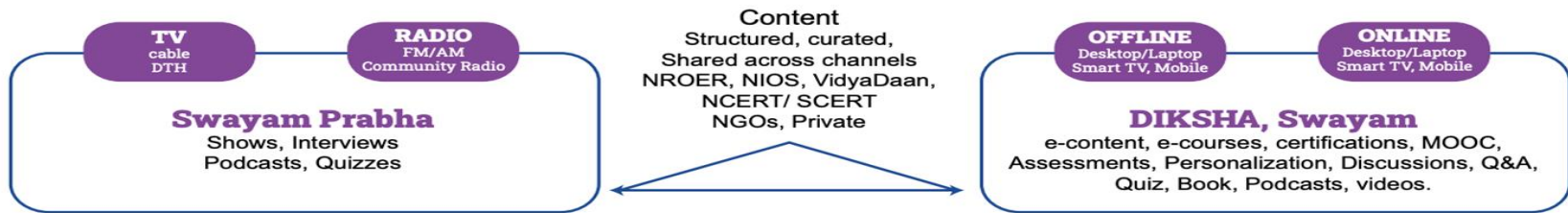
The diagram illustrates the DIKSHA app interface and its use on a phone and PC. It is divided into three main sections:

- Left Section:** A cartoon illustration of a television screen showing a video session with Sher Singh, PGT, Physics. Below the screen, two cartoon characters are shown. The boy on the left says, "I have missed the first half of this session, what should I do?". The girl on the right says, "Don't worry! Just scan the QR code on screen using DIKSHA app on your phone".
- Middle Section:** A smartphone displaying the DIKSHA app interface. The screen shows "Physics Part 1" and "Physics • Class 11". Below this, there is a list of resource categories: "e-Textbooks", "Explanation Resources" (highlighted with a red box), "Practice Resources", "Learning Resources", and "Teacher Focused Resources". A QR code is shown above the phone, with the ID "0962CH08" below it.
- Right Section:** A screenshot of the DIKSHA web interface on a PC. The page title is "Physics Part 1" and "Physics • Class 11". It features a video player with Sher Singh, PGT, Physics, and a sidebar with a table of contents. The table of contents includes: "1-Physical World", "2-Units and measurements", "3-Motion in straight line", "4-Motion in a plane", "5-Laws of motion", "6-Work, Energy and Power", "7-System of particles and Rotational Motion", and "8-Gravitation". Below the PC, a desktop computer setup is shown with the ID "0962CH08" on the monitor.

PM eVidya was launched on 17th May, 2020 to unify efforts of digital education & enable equitable multimodal access



ENABLING COHERENT MULTI CHANNEL, MULTIMODAL, LEARNING CONTINUUM
 AT SCHOOL, AFTER SCHOOL, AT COMMUNITY CENTRE, AT HOME
 SYNCHRONOUS, ASYNCHRONOUS, OFFLINE, ONLINE,
 PHYSICAL/ DIGITAL, SELF-SERVICE/ ASSISTED



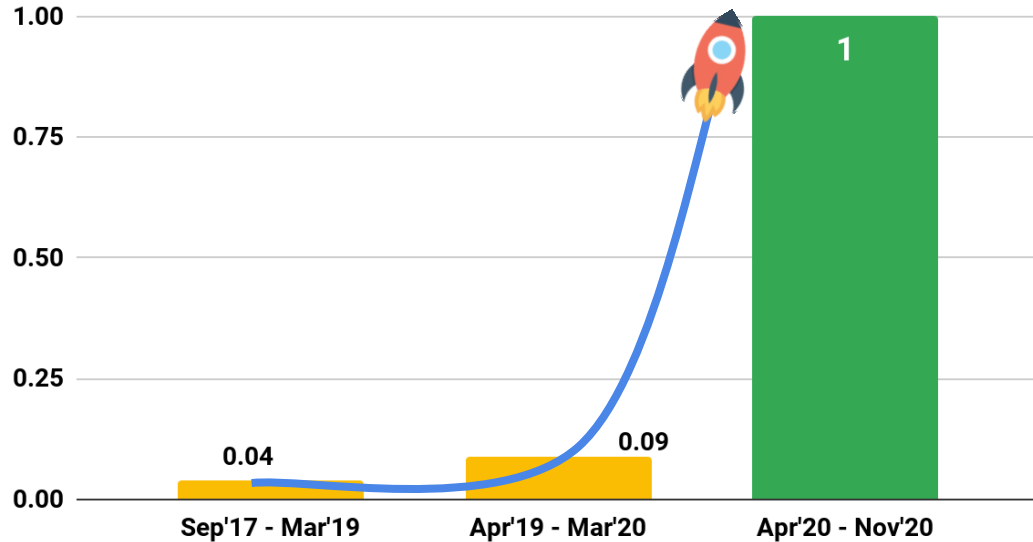
HW/SW INFRA: Smartboards, Tablets, Live Conferencing, Hosting Infra, SMS, Email, Digilocker, JAM
 CONNECTIVITY: Satellite, TV, DTH, Cable, Bharat Net, WiFi, Mobile Network

Diagram 1 - COHERENT LEARNING CONTINUUM

The phenomenal rise in adoption of DIKSHA during the pandemic highlights the relevance of digital teaching-learning solutions as on date...

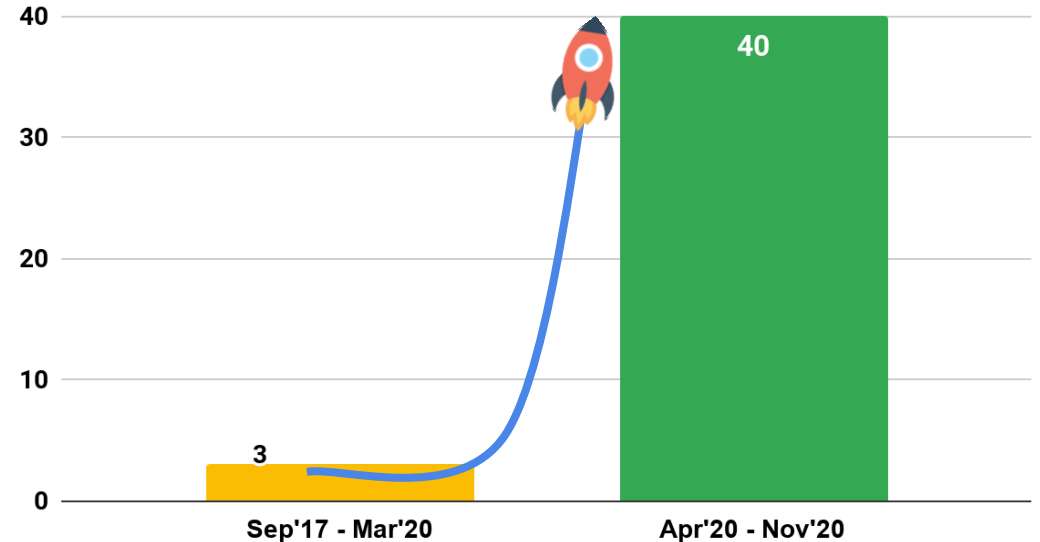
Journey of 1 B+ learning session

Learning Sessions on DIKSHA (in Billion)



Journey of 10 B+ page hits

Average Daily Page Hits (in Millions)



DIKSHA crossed 10 Billion page hits for AY 2020-21

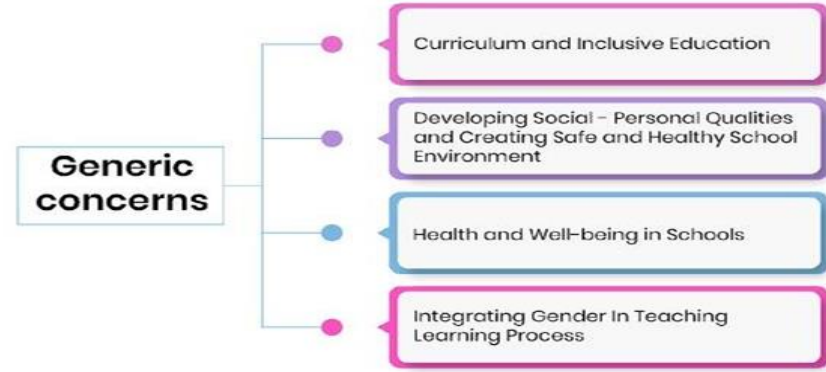
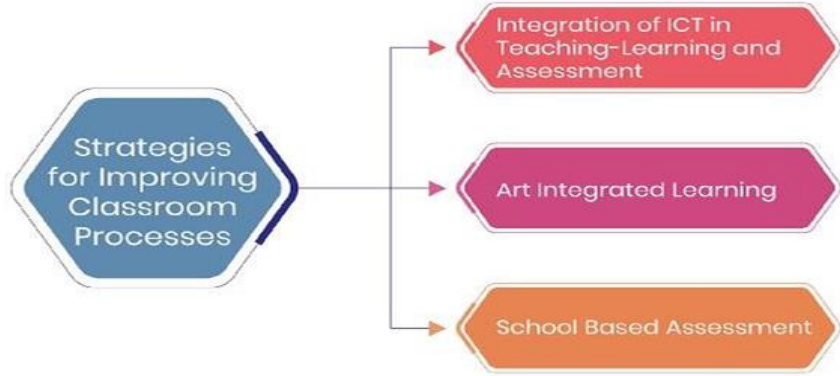
... enabling diverse use-cases



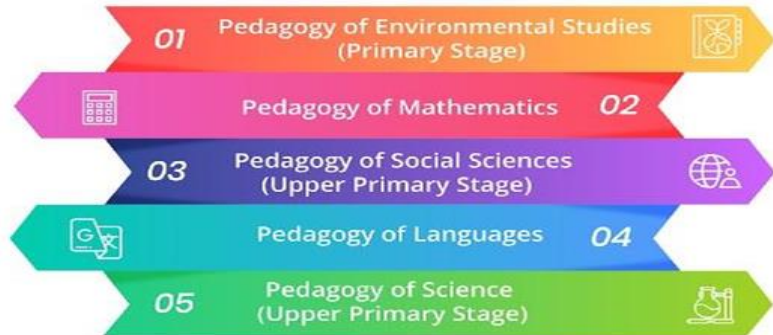
...and can be accessed across multiple device interfaces - both online and offline



Building competencies among all the teachers through Digital Courses on DIKSHA

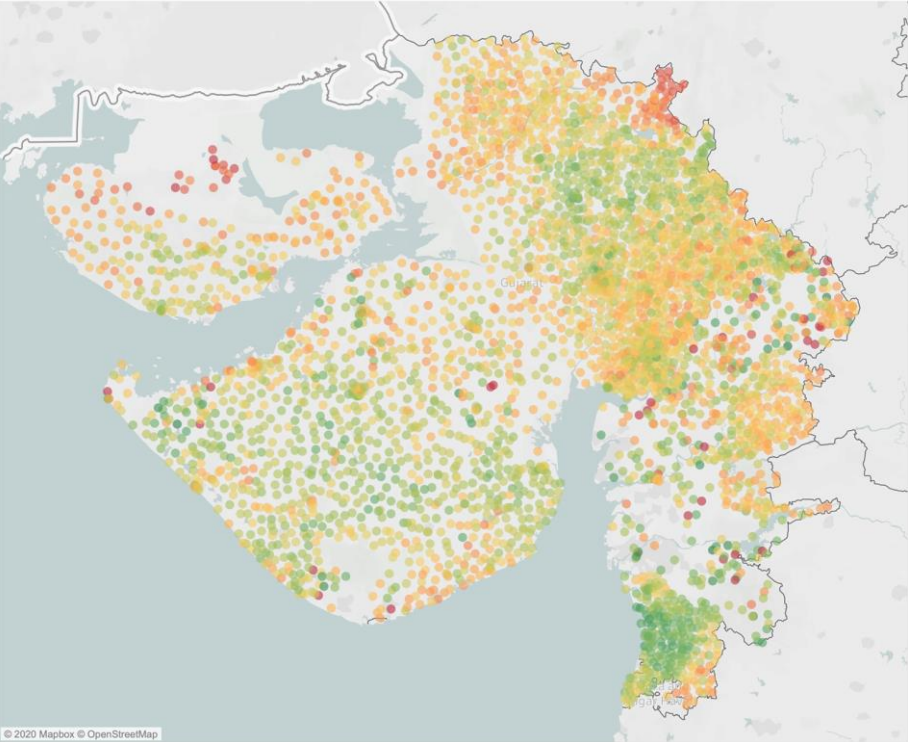


Subject-specific Pedagogies

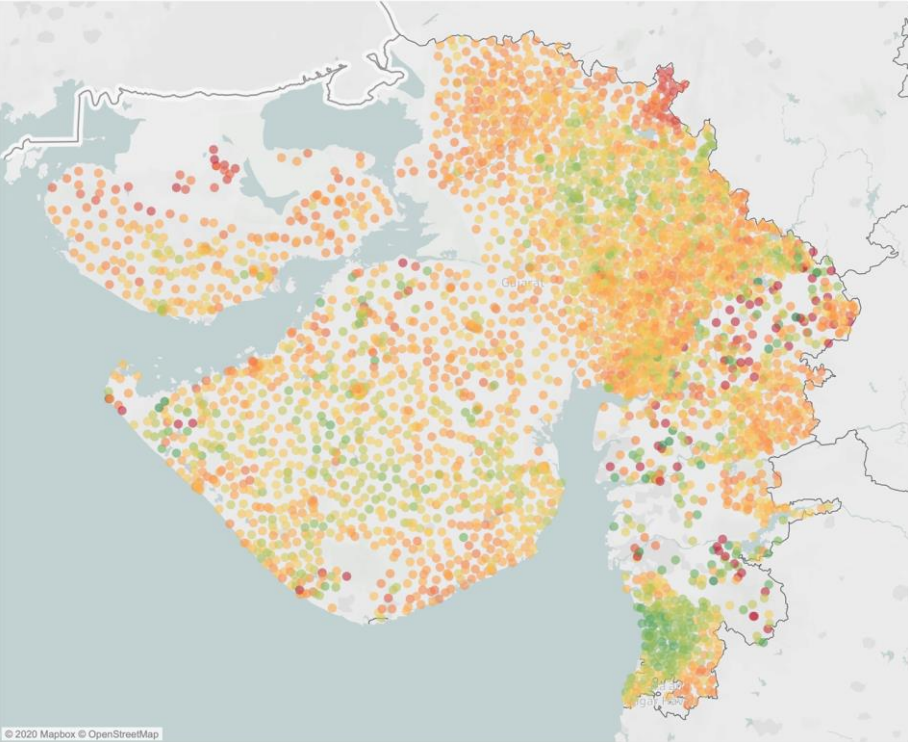


It has given speed to our ability to analyze and see performance (Cluster Level)

Performance in Gujarati



Performance in Mathematics



We can zoom into specific LOs & drive targeted interventions by subject, grades & area - Mathematics (teacher training, remediation campaigns)

Indicator wise performance (Maths) by grade and district

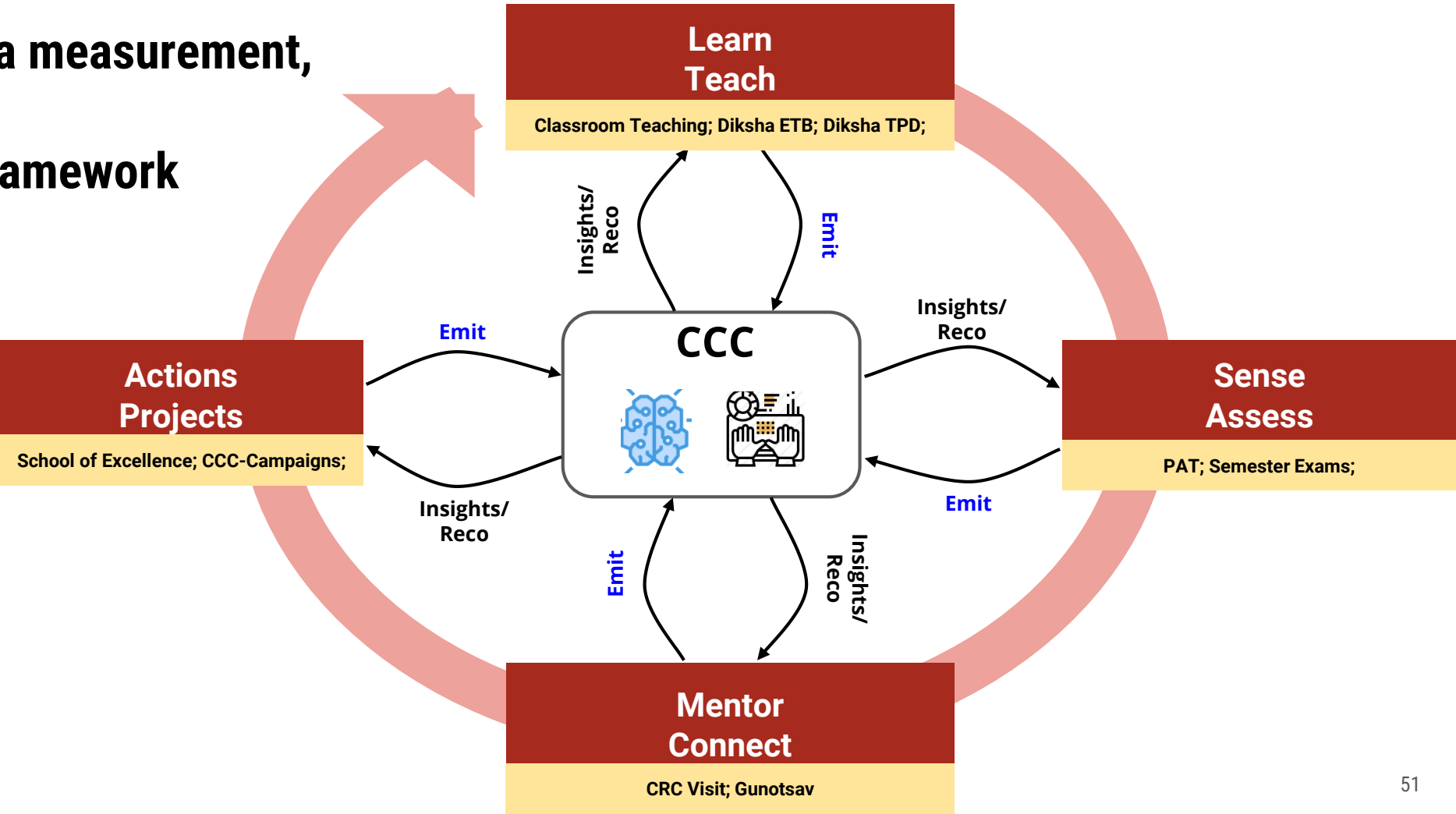
Subject / Grade	Indicator (English)	District_School																																
		AHMEDABAD	AMRELI	ANAND	ARAVALLI	BANASKANT..	BHARUCH	BHAVNAGAR	BOTAD	CHHOTAUDE..	DEVBHOMI	DWARCA	DOHAD	GANDHINAGA..	GIRI SOMNATH	JAMNAGAR	JUNAGADH	KACHCHH	KHEDA	MAHESANA	MAHISAGAR	MORBI	NARMADA	NAVSRARI	PANCH MAHALS	PATAN	PORBANDAR	RAIKOT	SABAR KANTHA	SURAT	SURENDRAN..	TAPI	THE DANGS	VADODARA
Grade 3	6 Creates and identifies two-dimensional (2D) shapes by using straight lines, cutting paper from a short line, swallowing paper ... etc.	3.9	3.8	3.9	3.9	3.6	4.1	3.9	3.7	3.6	4.2	3.7	4.0	4.2	3.7	3.8	3.5	3.8	4.1	3.9	3.9	4.0	4.4	4.3	3.7	3.6	3.9	3.7	4.2	3.8	4.8	4.3	3.9	4.2
	7 Creates and identifies two-dimensional (2D) shapes by using straight lines, cutting paper from a short line, swallowing paper ... etc.	3.3	3.3	3.3	3.3	3.0	3.6	3.5	3.0	3.1	3.6	2.9	3.5	3.9	3.2	3.3	3.0	3.3	3.6	3.3	3.4	3.3	4.1	3.6	3.2	3.2	3.5	3.1	4.1	3.2	4.3	4.0	3.4	3.8
	8 Creates and identifies two-dimensional (2D) shapes by using straight lines, cutting paper from a short line, swallowing paper ... etc.	2.8	2.7	2.8	2.8	2.5	3.1	2.8	2.6	2.5	2.9	2.3	3.0	3.2	2.6	2.8	2.5	2.7	3.1	2.9	2.8	2.8	3.6	2.8	2.6	2.7	3.0	2.5	3.1	2.6	3.5	3.1	2.9	3.1
	9 Creates and identifies two-dimensional (2D) shapes by using straight lines, cutting paper from a short line, swallowing paper ... etc.	3.2	3.2	3.0	2.7	2.7	3.0	3.4	3.3	2.5	3.5	2.6	3.2	3.6	3.1	3.2	2.8	2.9	3.4	2.7	3.3	2.8	4.0	3.1	2.8	3.0	3.3	2.6	4.1	2.9	4.1	3.4	3.0	3.5
	10 Creates and identifies two-dimensional (2D) shapes by using straight lines, cutting paper from a short line, swallowing paper ... etc.	2.9	3.0	2.8	2.5	2.6	2.7	3.2	3.0	2.3	3.2	2.4	3.1	3.7	2.9	3.0	2.6	2.7	3.2	2.5	3.1	2.6	3.9	2.8	2.7	2.9	3.2	2.3	3.8	2.7	3.9	3.2	2.8	3.3
Grade 4	16 Has an understanding of the shapes seen in the surrounding environment.	3.0	2.9	3.1	3.1	2.8	3.3	3.1	3.0	3.0	3.2	3.0	3.1	3.2	2.9	3.1	2.7	3.1	3.3	3.3	3.2	3.1	3.7	3.4	3.0	2.9	3.2	3.0	3.2	3.0	3.6	4.0	3.2	3.6
	17 Use the basic actions of numbers in everyday life.	2.2	2.2	2.3	2.3	2.0	2.4	2.3	2.3	2.0	2.4	1.9	2.3	2.5	2.0	2.5	1.9	2.3	2.6	2.6	2.3	2.2	3.0	2.3	2.2	2.3	2.5	2.1	2.0	2.1	2.7	2.6	2.2	2.6
	18 Measure and draw the distance between two points with a scale bar.	2.6	2.4	2.6	2.6	2.2	2.8	2.6	2.2	2.5	2.6	2.7	2.6	2.4	2.3	2.6	2.2	2.5	2.9	2.8	2.6	2.6	3.3	2.6	2.5	2.4	2.7	2.4	3.2	2.3	3.1	3.7	2.8	3.1
	19 Solve practical puzzles based on distance and height.	2.1	2.1	2.2	2.1	1.9	2.2	2.2	1.9	2.5	1.9	2.3	2.4	2.0	2.4	1.8	2.1	2.6	2.3	2.4	2.0	3.0	2.1	2.1	2.3	2.5	2.0	2.1	2.0	2.7	2.7	2.1	2.5	
	20 Estimates the distance between two objects, the weight of different objects, the resonance of objects, etc. and accurately measures them.	2.5	2.5	2.5	2.5	2.3	2.6	2.6	2.7	2.3	2.8	2.5	2.6	2.7	2.4	2.6	2.2	2.4	2.9	2.6	2.7	2.4	3.2	2.5	2.4	2.4	2.8	2.3	2.8	2.4	3.1	3.7	2.7	2.9
Grade 5	26 Reads and writes over 1000 numbers used in their surroundings.	3.6	3.3	3.6	3.7	3.3	3.4	3.4	3.6	3.4	3.5	3.6	3.6	3.5	3.3	3.4	3.2	3.6	3.8	3.8	3.5	3.6	4.1	3.9	3.4	3.4	3.6	3.4	4.1	3.4	3.9	3.7	3.7	3.9
	27 Compares numbers greater than 1000 based on place value.	2.8	2.6	2.8	2.8	2.5	2.7	2.6	2.7	2.7	2.5	2.8	2.4	2.5	2.7	2.4	2.7	3.0	3.0	2.6	2.7	3.3	3.2	2.6	2.6	2.9	2.6	3.0	2.6	2.9	3.1	2.8	3.1	
	28 Estimates and verifies the outcome of four basic actions.	2.3	2.4	2.4	2.3	2.2	2.4	2.4	2.6	2.1	2.5	1.9	2.5	2.5	2.2	2.5	2.1	2.3	2.7	2.5	2.4	2.2	3.0	2.5	2.3	2.4	2.6	2.1	2.7	2.3	2.6	2.2	2.5	2.6
	29 Classifies angles into right angles, right angles and right angles and represents them by drawing / tracing.	2.4	2.3	2.5	2.4	2.2	2.5	2.5	2.3	2.4	2.5	2.3	2.6	2.2	2.3	2.4	2.1	2.4	2.9	2.6	2.5	2.4	3.2	2.6	2.4	2.3	2.7	2.3	2.9	3.2	2.9	3.2	2.6	2.9
	30 Shows the angles formed in the surrounding environment in the form of right angles, right angles and right angles.	2.4	2.4	2.4	2.1	2.1	2.3	2.7	2.7	2.2	2.7	2.0	2.5	2.8	2.4	2.5	2.1	2.2	2.6	2.3	2.5	2.2	3.3	2.4	2.3	2.3	2.8	2.1	3.3	2.3	2.9	2.9	2.4	2.9
Grade 6	36 The given number represents the place value of the digits and extends the given number based on the place value	2.2	2.1	2.3	2.5	2.0	2.5	2.3	2.1	2.3	2.5	2.0	2.4	2.0	2.2	2.3	2.2	2.2	2.7	2.5	2.2	2.2	2.9	2.1	2.3	2.2	2.5	2.3	2.3	2.1	2.8	2.2	2.4	2.7
	37 Numbers in Indian / International system using commas.	2.2	2.1	2.3	2.4	1.9	2.5	2.2	2.0	2.2	2.4	2.0	2.3	2.1	2.1	2.3	2.1	2.2	2.7	2.4	2.2	2.2	3.1	2.1	2.2	2.1	2.5	2.2	2.6	2.1	2.8	2.5	2.5	2.8
	38 Uses the extension of brackets to simplify the calculation.	1.5	1.5	1.6	1.6	1.3	1.5	1.5	1.3	1.5	1.8	1.1	1.6	1.3	1.4	1.6	1.4	1.5	2.0	1.8	1.5	1.4	2.1	1.3	1.5	1.5	1.8	1.5	1.5	1.3	2.0	2.2	1.4	1.8
	39 Represents numbers on the number line as well as addition, subtraction and multiplication of numbers	1.9	1.8	1.9	2.0	1.6	2.0	2.0	1.4	1.8	2.2	1.6	2.0	1.9	1.9	2.1	1.8	1.8	2.3	2.0	1.9	1.9	2.7	1.8	1.8	1.9	2.3	1.8	2.2	1.7	2.5	1.8	2.0	2.4
	40 State the sum and multiplication properties of the whole number as well as calculate using the property	1.7	1.6	1.9	1.7	1.6	2.0	1.7	1.5	1.5	2.0	1.5	1.9	1.5	1.6	1.8	1.6	1.6	2.3	1.8	1.7	1.5	2.5	1.6	1.7	1.6	1.9	1.7	2.0	1.5	2.5	1.8	1.8	2.2
Grade 7	46 Generalizes the properties of addition and subtraction of integers and uses them to perform simple mathematical operations	3.8	3.4	3.6	3.8	3.4	3.8	3.6	3.3	3.6	3.7	3.8	3.7	3.4	3.4	3.5	3.4	3.6	3.9	3.8	3.6	3.8	3.9	3.7	3.6	3.3	3.7	3.6	4.2	3.5	4.1		3.9	4.0
	47 Generalizes properties about multiplication of integers by examples / patterns and simplifies mathematical operations using properties	2.6	2.5	2.6	2.7	2.3	2.7	2.7	2.4	2.5	2.8	2.5	2.7	2.3	2.4	2.7	2.4	2.5	3.0	2.7	2.6	2.6	3.1	2.3	2.5	2.5	2.8	2.6	3.0	2.4	3.3	2.9	3.0	
	48 Decimal numbers are used in the amounts used in everyday transactions.	1.9	2.0	2.0	2.0	1.9	2.4	2.2	2.1	1.7	2.2	1.8	2.2	1.7	1.9	2.1	1.9	1.9	2.6	2.0	2.2	1.7	2.6	1.5	2.1	1.9	2.3	2.0	1.3	1.9	2.6		2.2	2.2
	49 Develops understanding of multiplication and division of fractions.	1.5	1.6	1.6	1.5	1.5	1.8	1.7	1.4	1.4	1.7	1.4	1.8	1.3	1.5	1.7	1.5	1.5	2.1	1.5	1.7	1.3	2.1	1.2	1.7	1.4	1.9	1.6	0.6	1.5	1.9		1.6	1.8
	50 Multiply the decimal number by the whole number.	2.3	2.3	2.3	2.2	2.4	2.5	2.4	2.1	2.7	2.3	2.5	2.2	2.3	2.5	2.3	2.2	2.8	2.2	2.5	2.1	2.0	1.9	2.3	2.2	2.6	2.3	1.9	2.3	3.1		2.5	2.7	
Grade 8	56 Finds the solution of an equation that has a fine expression on one side and a number on the other.	3.2	3.1	3.2	3.4	3.1	3.6	3.3	3.4	3.2	3.3	3.5	3.4	3.1	3.0	3.2	3.1	3.3	3.6	3.3	3.4	3.3	3.6	3.1	3.3	3.9	3.4	3.3	3.7	3.2	3.8	4.0	3.5	3.6
	57 Finds a solution by converting the equation into a simple form.	2.5	2.4	2.6	2.6	2.4	3.0	2.6	2.7	2.5	2.8	2.6	2.7	2.5	2.3	2.5	2.5	2.5	3.1	2.6	2.6	2.5	2.9	2.3	2.6	2.3	2.8	2.6	2.7	2.5	3.0	3.4	2.8	2.9
	58 Generalizes properties about addition, subtraction, multiplication and division of symmetry numbers by pattern / example and simplifies using p...	1.9	2.1	2.1	2.1	1.9	2.4	2.3	2.1	2.0	2.0	2.1	2.1	2.2	1.9	2.1	2.0	2.0	2.6	2.2	2.1	2.0	2.5	2.0	2.1	1.8	2.4	2.0	2.4	2.0	2.4	3.9	2.3	2.4
	59 Finds as many symmetrical numbers as possible between the given numbers.	2.2	2.3	2.4	2.2	2.2	2.9	2.5	2.5	2.1	2.6	2.5	2.5	2.4	2.1	2.3	2.3	2.2	2.9	2.2	2.5	2.0	2.8	1.9	2.4	2.1	2.5	2.3	2.6	2.3	2.3	3.9	2.6	2.5
	60 Solve practical puzzles related to a single straight line equation.	1.8	2.0	2.0	1.9	1.9	2.4	2.1	2.1	1.8	2.3	2.0	2.0	2.0	1.8	1.9	1.8	1.8	2.4	1.8	2.1	1.7	2.4	1.7	2.0	1.8	2.2	1.8	2.2	1.9	2.0	3.3	2.0	2.2

We can zoom into specific LOs & drive targeted interventions by subject, grades & area - Gujarati language (teacher training, remediation campaigns)

Indicator wise performance (Gujarat) by grade and district

Subject / Grade	Grade	Indicator (English)	District_School																																	
			AHMEDABAD	AMRELI	ANAND	ARAVALLI	BANASKANT..	BHARUCH	BHAVNAGAR	BOTAD	CHHOTAUDE..	DEJIBHOMI	DIVARKA	DOHAD	GANDHINAGA..	GIR SOMNATH	JAMNAGAR	JUNAGADH	KACHHH	KHEDA	MAHESANA	MAHISAGAR	MORBI	NARMADA	NAVARRI	PANCH	MHALLS	PATAN	PORBANDAR	RAJKOT	SABAR	KANTHA	SURAT	SUREDRAN..	TAPI	THE DANGS
Gujarati	Grade 3	1 The description of the picture can be written in seven to eight sentences	3.0	3.2	3.1	3.2	2.9	3.2	3.3	2.9	2.7	3.3	2.8	3.3	3.4	2.9	3.1	2.8	3.1	3.5	3.1	3.1	3.0	3.8	3.1	3.0	3.1	3.3	2.9	3.8	3.1	3.5	3.4	3.1	3.4	
		2 Forms a meaningful sentence using the given words.	3.2	3.2	3.3	3.2	3.0	3.3	3.4	3.2	2.8	3.4	2.9	3.4	3.5	3.1	3.3	2.9	3.2	3.6	3.3	3.2	3.2	4.0	3.3	3.1	3.2	3.4	3.0	3.8	3.1	3.9	3.6	3.3	3.6	
		3 Finds a familiar word.	3.3	3.1	3.4	3.4	3.0	3.7	3.2	3.0	3.0	3.3	2.8	3.6	3.5	3.0	3.3	2.9	3.4	3.7	3.4	3.4	3.3	4.1	3.5	3.2	3.1	3.4	3.1	3.8	3.0	3.8	3.6	3.5	3.7	
		4 Finds a new word	2.2	2.2	2.1	2.0	1.8	2.0	2.3	1.8	1.8	2.2	1.8	2.3	2.5	1.9	2.3	1.9	2.1	2.6	2.3	2.1	1.9	2.9	1.9	2.1	2.3	2.4	1.8	2.7	1.9	2.2	2.5	1.9	2.4	
		5 Leave space, write punctuation correctly.	3.0	3.0	3.0	2.7	2.7	2.6	3.1	2.8	2.5	3.1	2.6	3.1	3.3	2.8	3.0	2.6	2.8	3.3	2.7	3.1	2.7	3.7	2.9	2.8	2.9	3.2	2.6	3.1	2.8	3.7	3.3	2.9	3.4	
Grade 4	11 Can describe in detail the given pictures.	3.2	3.2	3.3	3.3	3.0	3.3	3.4	3.4	3.0	3.5	3.1	3.3	3.2	3.1	3.4	2.9	3.2	3.5	3.4	3.3	3.2	3.8	3.3	3.1	3.3	3.5	3.0	3.8	3.1	3.6	4.1	3.3	3.5		
	12 Can form a sentence using words.	3.1	3.1	3.2	3.1	2.8	3.3	3.3	3.1	2.8	3.5	2.9	3.2	3.2	3.1	3.2	2.8	3.0	3.5	3.1	3.3	3.0	3.8	3.2	3.0	3.2	3.4	2.9	3.6	3.0	3.4	3.7	3.2	3.4		
	13 Cultivates awareness of word-for-word relationships and can understand the details read.	3.9	3.6	3.8	3.9	3.6	4.3	3.9	3.8	3.6	4.1	3.7	3.9	3.8	3.7	3.8	3.5	3.8	4.1	3.8	4.1	3.9	4.4	4.2	3.7	3.6	3.9	3.6	4.5	3.7	4.5	4.5	4.1	4.2		
	14 Understands about 3,000 words and uses a dictionary.	2.8	2.7	2.7	2.7	2.6	2.9	2.9	3.0	2.4	3.2	2.3	2.9	3.1	2.7	2.9	2.5	2.6	3.1	2.7	3.1	2.6	3.6	2.7	2.7	2.8	3.0	2.5	3.1	2.6	3.3	3.5	2.9	3.1		
	15 Can write independently on a familiar or unfamiliar topic	2.4	2.7	2.4	2.4	2.4	2.8	2.7	2.0	2.9	2.2	2.6	2.7	2.5	2.8	2.3	2.2	3.0	2.3	2.8	2.3	3.2	2.2	2.4	2.7	2.9	2.2	2.6	2.5	3.0	3.4	2.4	2.8			
Grade 5	21 Can describe and write a picture.	2.2	2.4	2.3	2.4	2.0	2.4	2.4	2.3	2.2	2.4	1.8	2.3	2.1	2.2	2.3	2.0	2.2	2.5	2.5	2.0	2.3	3.0	2.2	2.1	2.3	2.6	2.2	2.5	2.1	2.4	1.9	2.2	2.6		
	22 Can read and understand stories, songs, poems, descriptions, conversations, plays.	3.0	2.8	2.9	3.0	2.7	3.0	3.0	2.9	2.8	3.1	2.8	3.0	2.9	2.8	3.0	2.6	2.9	3.2	3.1	2.7	2.8	3.5	3.1	2.8	2.8	3.1	2.7	4.0	2.8	3.1	2.8	2.9	3.2		
	23 Can complete an incomplete line of poetry.	2.5	2.7	2.6	2.5	2.3	2.5	2.7	3.0	2.3	2.9	2.1	2.7	2.9	2.5	2.8	2.2	2.4	2.9	2.5	2.5	2.4	3.5	2.6	2.5	2.7	2.9	2.4	3.5	2.6	3.0	2.5	2.6	3.0		
	24 Can use practical grammar through word comprehension, word-word relationship, vowel-consonant, treaty, compound, conjunction, metaphor...	2.8	2.8	2.9	3.0	2.7	3.1	2.9	2.8	2.8	3.1	2.8	3.0	3.1	2.8	2.9	2.6	2.9	3.3	3.0	3.0	2.8	3.7	3.1	2.8	2.8	3.1	2.7	3.4	2.8	3.0	2.4	3.0	3.4		
	25 Can write independently on a familiar or unfamiliar topic.	3.0	2.9	2.9	2.9	2.7	3.0	3.0	3.0	2.8	3.3	2.8	3.0	3.1	2.9	3.0	2.6	2.8	3.3	3.0	3.0	2.9	3.7	3.2	2.8	2.9	3.2	2.7	3.2	2.8	3.2	2.6	3.1	3.3		
Grade 6	31 Can illustrate and write.	2.8	3.1	2.9	3.0	2.7	2.9	3.1	3.3	2.7	3.6	2.8	2.9	3.2	2.9	3.1	2.8	2.7	3.3	2.7	3.0	2.9	3.5	2.4	2.8	3.1	3.3	2.8	3.1	3.0	3.2	2.9	2.7	3.3		
	32 Causal relationships can be deduced from the material read.	2.2	2.2	2.3	2.3	2.0	2.3	2.3	2.1	2.2	2.4	2.0	2.3	2.3	2.1	2.3	2.1	2.1	2.6	2.4	2.1	2.1	2.8	2.0	2.2	2.3	2.5	2.1	2.4	2.1	2.5	2.8	2.3	2.5		
	33 Draw appropriate conclusions from heard or read material and write answers to questions	2.2	2.2	2.3	2.4	2.0	2.4	2.4	2.3	2.3	2.6	2.2	2.3	2.2	2.2	2.4	2.1	2.2	2.6	2.6	2.2	2.2	2.9	2.1	2.2	2.3	2.6	2.2	2.6	2.2	2.7	2.3	2.3	2.7		
	34 Understand about 3000 words and use it practically.	2.9	2.8	2.9	2.9	2.7	2.9	3.0	3.1	2.7	3.4	2.8	2.9	3.1	2.9	3.0	2.7	2.8	3.2	2.8	3.0	2.9	3.5	2.5	2.8	2.9	3.2	2.7	3.4	2.8	3.4	3.0	3.0	3.3		
	35 Familiar occasions can describe places and situations	1.8	2.0	1.8	1.7	1.7	1.7	2.2	2.2	1.5	2.6	1.6	1.9	2.2	2.0	2.2	1.7	1.6	2.3	1.7	2.0	1.5	2.5	1.3	1.8	2.1	2.3	1.7	2.0	1.8	2.0	1.5	1.6	2.0		
Grade 7	41 Can write answers to questions by drawing appropriate conclusions from material seen, heard or read.	2.4	2.6	2.4	2.5	2.3	2.8	2.7	2.6	2.3	2.7	2.2	2.5	2.4	2.3	2.6	2.4	2.3	2.9	2.5	2.5	2.3	2.9	1.8	2.4	2.6	2.8	2.4	2.5	2.4	2.7	2.9	2.4	2.7		
	42 Can use practical grammar including synonyms, antonyms, promise tense sentence type, noun, adjective.	3.1	3.0	3.0	3.1	2.9	3.4	3.1	3.1	3.0	3.2	2.9	3.2	2.7	2.8	3.1	2.9	3.0	3.4	3.1	3.0	3.0	3.4	2.8	3.0	2.9	3.3	3.0	3.5	3.0	3.4	3.6	3.0	3.3		
	43 Knows about 4000 words and knows dictionary, spelling and practical grammar.	3.1	3.2	3.1	3.2	3.0	3.3	3.4	3.4	3.0	3.7	3.1	3.2	3.3	3.2	3.3	3.1	3.1	3.5	3.1	3.5	3.2	3.7	2.9	3.2	3.1	3.5	3.1	3.3	3.2	3.9	3.7	3.4	3.6		
	44 Will be able to write a story, various characters and an essay from the topic.	1.8	2.0	1.8	1.8	1.7	2.3	2.2	2.1	1.6	2.3	1.4	2.0	1.8	1.9	2.1	1.8	1.7	2.3	1.8	2.0	1.7	2.4	1.0	1.8	2.1	2.3	1.8	1.9	1.8	2.3	2.6	1.9	2.0		
	45 Be able to describe and write pictures.	2.6	2.9	2.5	2.5	2.5	2.7	3.0	3.1	2.3	3.3	2.2	2.6	2.8	2.7	2.8	2.5	2.3	3.0	2.4	2.9	2.4	3.2	2.0	2.5	2.7	3.0	2.5	3.0	2.6	3.0	3.5	2.5	3.0		
Grade 8	51 Can describe and analyze familiar, unfamiliar situations.	2.8	3.1	2.8	2.8	2.8	3.0	3.2	3.3	2.7	3.2	2.7	2.9	3.0	2.9	3.1	2.8	2.7	3.3	2.8	3.0	2.7	3.2	2.6	2.9	2.9	3.3	2.8	3.1	3.0	3.1	3.1	2.9	3.0		
	52 Can independently write and abstract poetry, thought space, proverbs, sayings and prose.	2.4	2.6	2.6	2.5	2.4	2.8	2.8	2.8	2.4	2.8	2.5	2.6	2.7	2.3	2.6	2.4	2.5	3.0	2.6	2.6	2.4	2.9	2.4	2.5	2.5	2.9	2.5	2.5	2.6	2.8	3.1	2.7	2.7		
	53 Uses bill, receipt, wrapper, report, minutes for information.	3.2	3.2	3.2	3.2	3.1	3.4	3.2	3.5	3.1	3.4	3.4	3.3	3.1	3.1	3.2	3.2	3.2	3.5	3.3	3.4	3.2	3.4	3.3	3.2	3.0	3.4	3.1	3.5	3.2	3.5	3.1	3.4	3.4		
	54 Knows about 5000 words and uses dictionary as well as knows practical grammar	2.7	2.6	2.7	2.8	2.6	3.0	2.8	2.9	2.7	2.9	2.9	2.7	2.6	2.5	2.7	2.6	2.6	3.0	2.8	2.7	2.8	3.1	2.8	2.7	2.5	2.9	2.7	2.5	2.7	2.9	2.0	2.8	3.0		
	55 Can create articles like summary from prose, story from title.	2.0	2.4	2.0	1.9	2.0	2.2	2.5	2.5	1.8	2.5	1.9	2.1	2.5	2.1	2.3	2.0	1.8	2.6	1.8	2.2	1.8	2.6	1.6	2.0	2.1	2.5	2.0	2.3	2.2	2.3	1.3	1.9	2.4		

Continuous data measurement, monitoring and improvement framework in Gujarat



Thank You