



Ministry of Education
Government of India

NDEAR and DIKSHA

Enabling Good Governance

Presentation by

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29th November 2021

India K-12 Education System 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)**



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



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



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



9.6 Million +
of Teachers

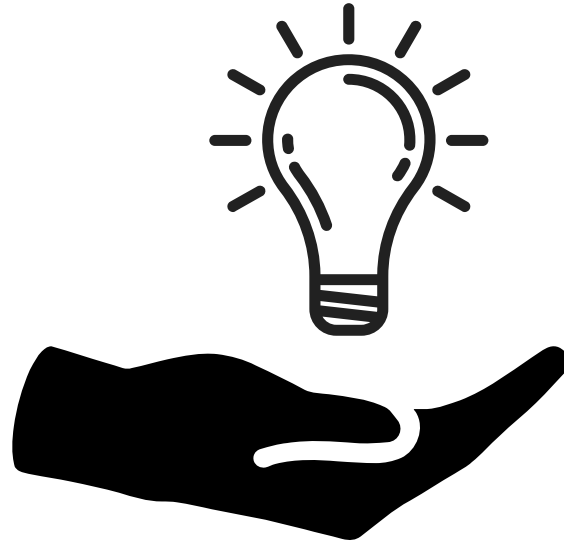
We have clear policies - National Education Policy (NEP) 2020

1

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

2

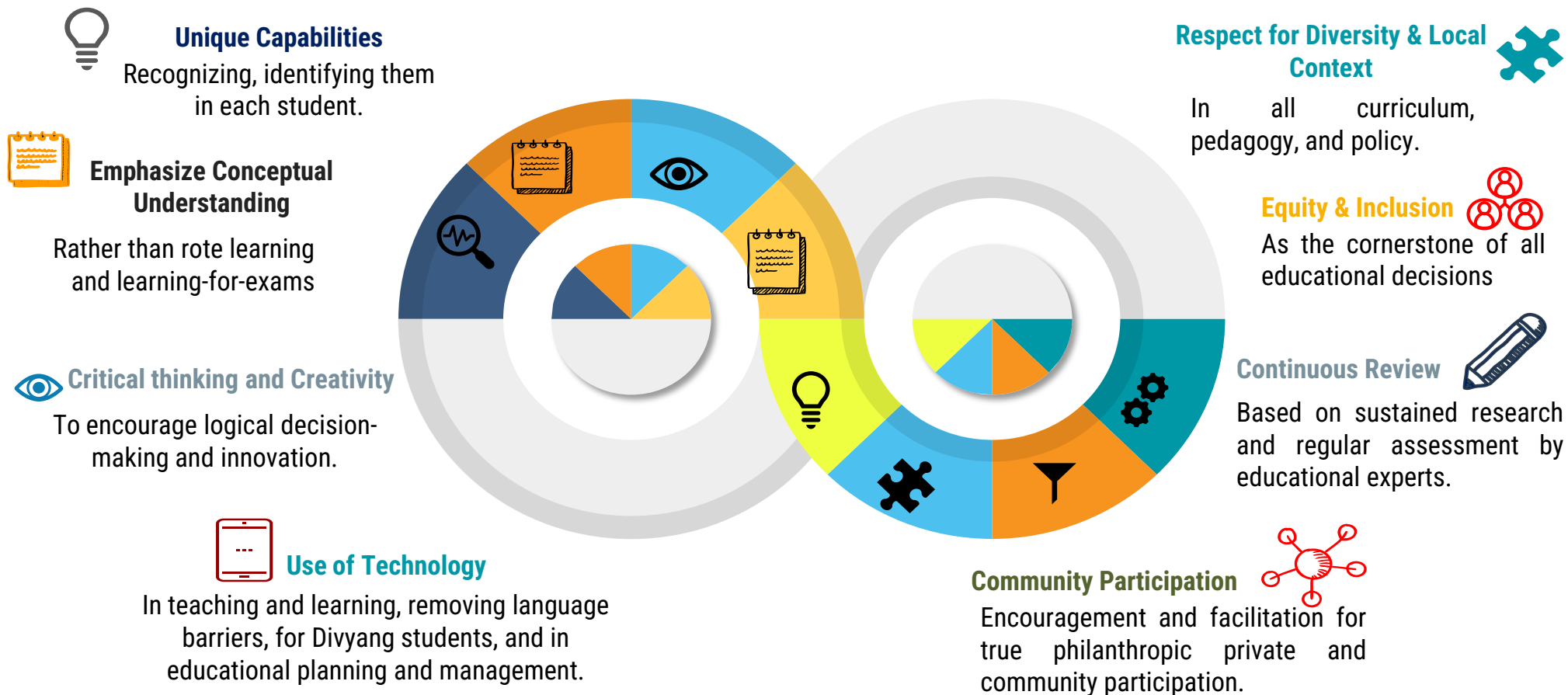
Develops a deep sense of respect towards the fundamental rights, duties and Constitutional values, bonding with one's country, and a conscious awareness of one's role and responsibilities in a changing world



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



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



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



India has recently launched NDEAR which provides building blocks for development of federated and interoperable systems

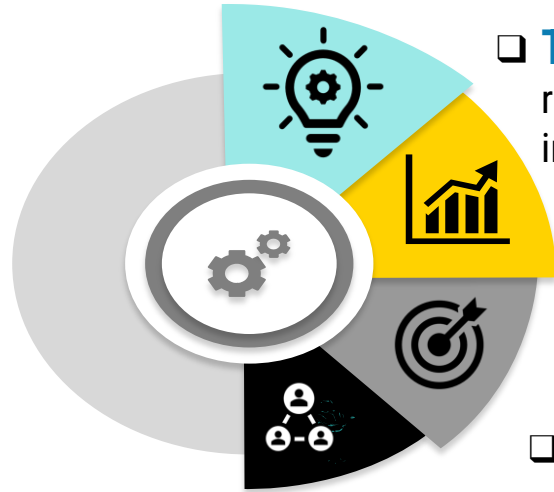


Vision: A globally pioneering effort in education - A unifying national digital infrastructure to **Energise** and **Catalyse** the education ecosystem

NDEAR is federated, unbundled, interoperable, inclusive, accessible and evolving. It aims to create and deliver diverse, relevant, contextual and innovative solutions that benefit **Students, Teachers, Parents, Communities** and **Administrators** and result in timely implementation of policy goals

Envisaged outcomes of NDEAR

- ❑ **The Students** get access to on demand learning materials, videos, graphics and animations, virtual labs and different forms of assessment tools. Access to personalized adaptive learning (PAL), Transition to higher education and skilling to be tracked



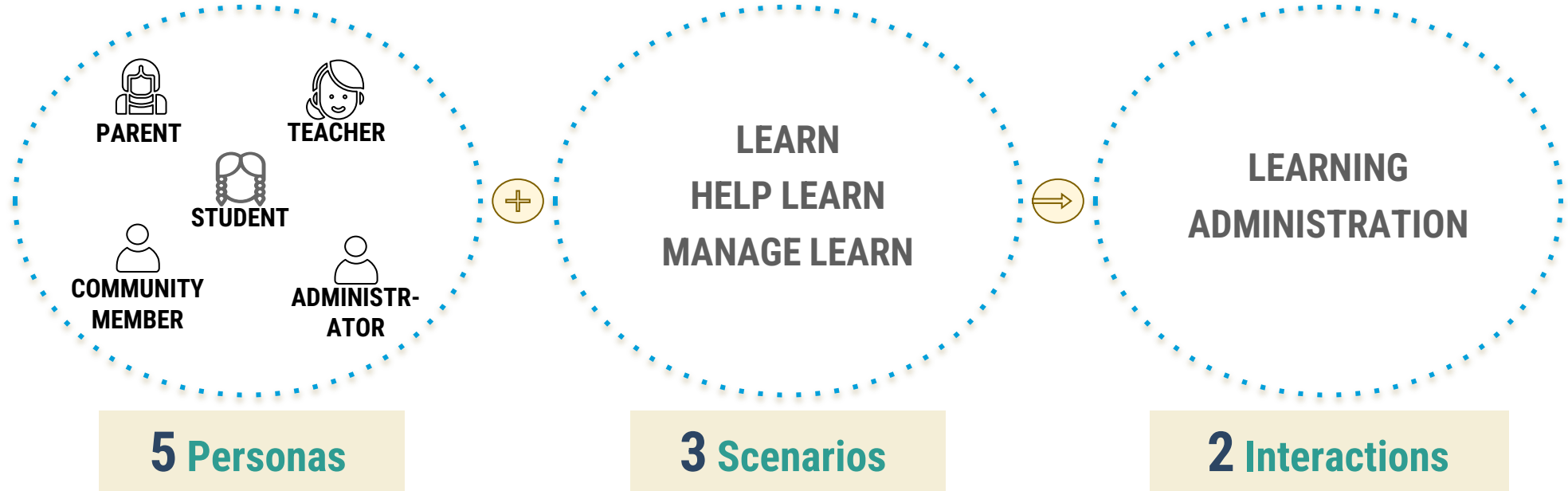
- ❑ **The Teachers** get access to online support for lesson plans, use of TLM, pedagogic transactions, online reference materials, competency based evaluation tools etc. They also get access to online modules for improving professional standards

- ❑ **Schools/School management** get access to school management practices, school related ERPs, learning management systems, data analytics etc

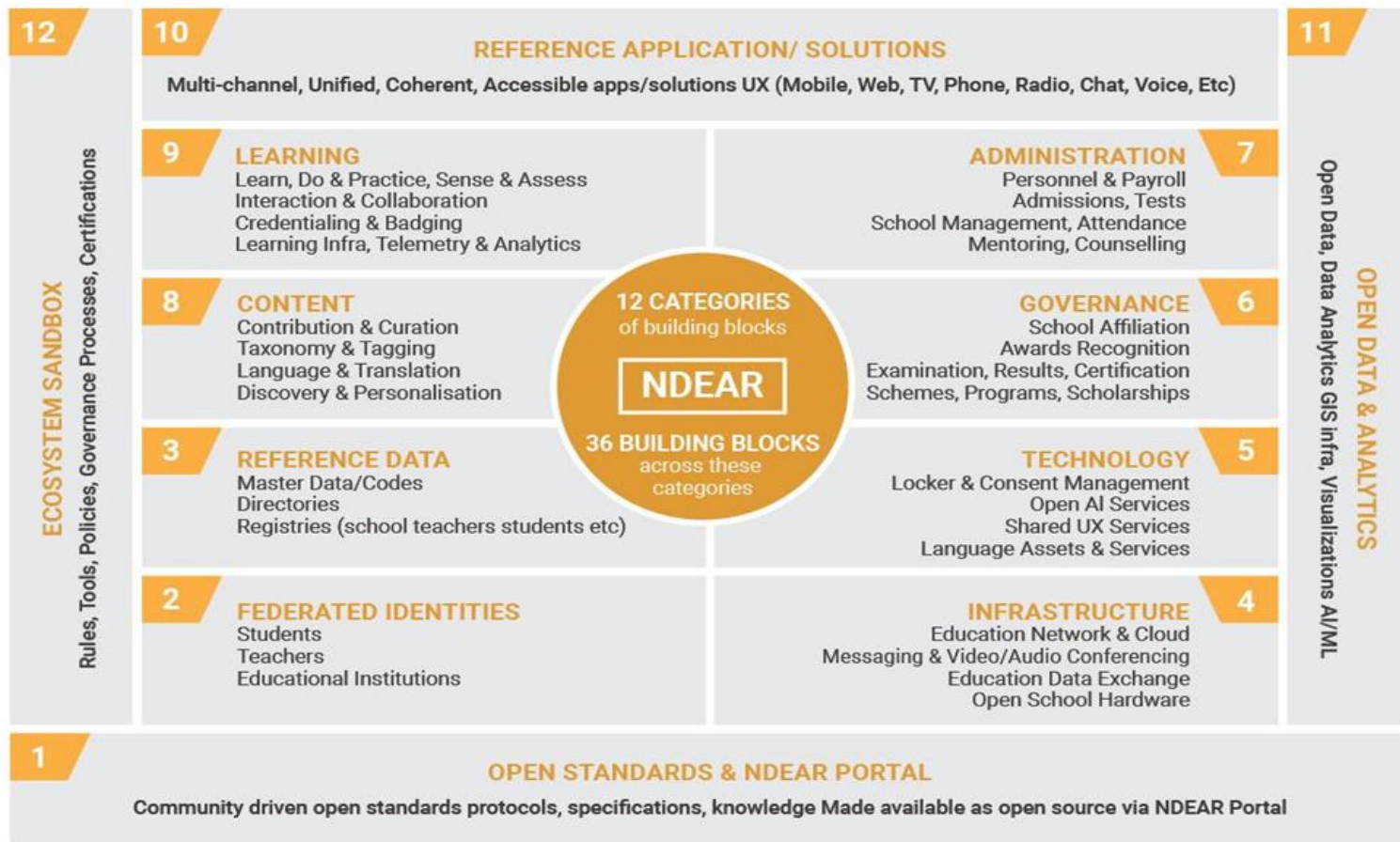
- ❑ **Parents** get access to the child's holistic progress reports, school performance, teacher performance. Community plays a role in voluntary engagement, CSR, mentorship etc

- ❑ **Educational administrators** use data analytics to bridge infrastructure gap, teacher availability gap, address dropouts and make informed policy choices

Catering to diverse scenarios and user types



DIKSHA leverages NDEAR Building Blocks to provide a federated and interoperable system



Building blocks were used for multiple use cases on DIKSHA with complete sovereign control



1. Energised Textbooks



2. Teacher Professional Development



3. Question Bank



4. Content Sourcing



5. Content Authoring



6. Quizzes



7. Content Consumption



8. Data Tools & Dashboards



9. Chatbot



10. Digital Credentials



11. Collaboration



12. Phygital



13. cQube



14. Surveys



15. Language Translations

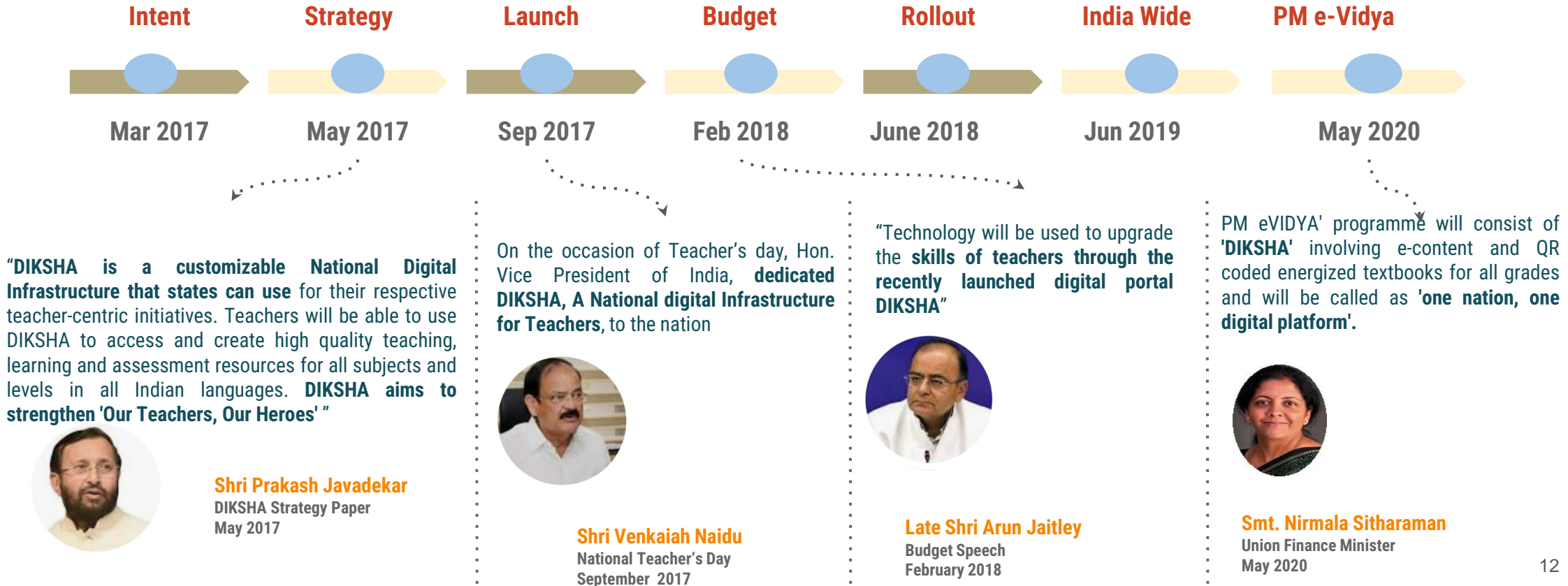


16. Mentoring



17. Sunbird Registry and Credentials

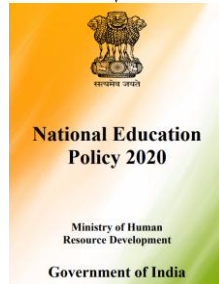
DIKSHA - Journey so far (1/2)



DIKSHA - Journey so far (2/2)

NEP Rollout

July 2020



Extending horizons of DIKSHA in alignment with NEP 2020

NISHTHA on DIKSHA

October 2020



In collaboration with MoE and MeitY, the World Bank conducted the webinar to enable remote learning through state-of-the-art digital education platform - DIKSHA, in post-COVID world.

India-Africa Knowledge-sharing Webinar

December 2020

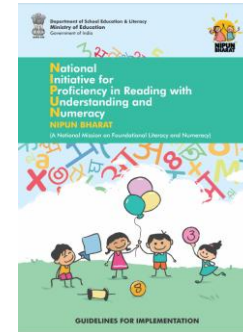


Hon'ble PM interacted with the beneficiaries of DIKSHA during 'Digital India' event and heard about the experiences with DIKSHA App and how it was useful for education during lockdown.

6th Digital India anniversary

1st July 2021

DIKSHA shall be integrated with the new Curriculum Framework by the States/UTs.

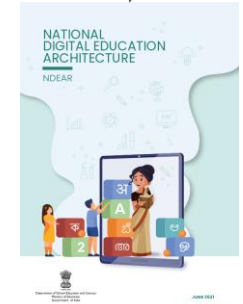


NIPUN Bharat Launch

5th July 2021

NDEAR Launch

29th July 2021



DIKSHA contains several building blocks that enable and support various use-cases, multiple languages and solutions for teaching and learning

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

4.02 Billion +

Learning Sessions



27.3 Billion +

Page Hits

48.6 Billion +

Learning Minutes

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

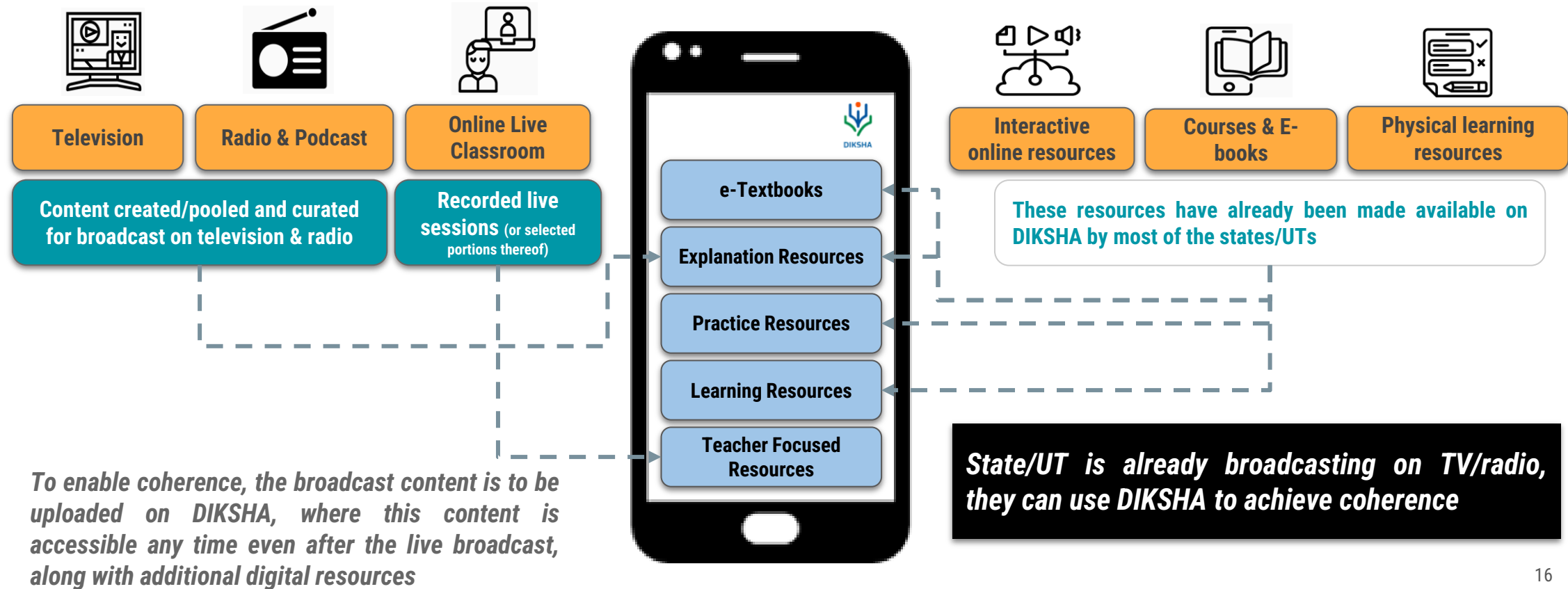


Digital Teacher Training

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



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



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

4600 +
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

ಅಭ್ಯಾಸ - 1
ಗುಣಕಾರ



ನೀವು ಈ ಅಭ್ಯಾಸದ 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 ಆಧರಿಸಿದ ಸಮಸ್ಯೆಗಳನ್ನು ಬಿಡಿಸುವುದು.

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

ಗುಣ್ಯ × 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) ಗುಣ್ಯ ಮತ್ತು ಗುಣಕದ ಸ್ಥಾನವನ್ನು ಬದಲಾಯಿಸಿದಾಗಲೂ ಅವುಗಳ ಗುಣಲಬ್ಧವು ಒಂದೇಯಾಗಿರುತ್ತದೆ. ಉದಾ: $4 \times 7 = 28$, $7 \times 4 = 28$.

ಪುನರಾವರ್ತಿತ ಅಭ್ಯಾಸ

I ಗುಣಲಬ್ಧವನ್ನು ಕಂಡುಹಿಡಿಯಿರಿ.

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

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.

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

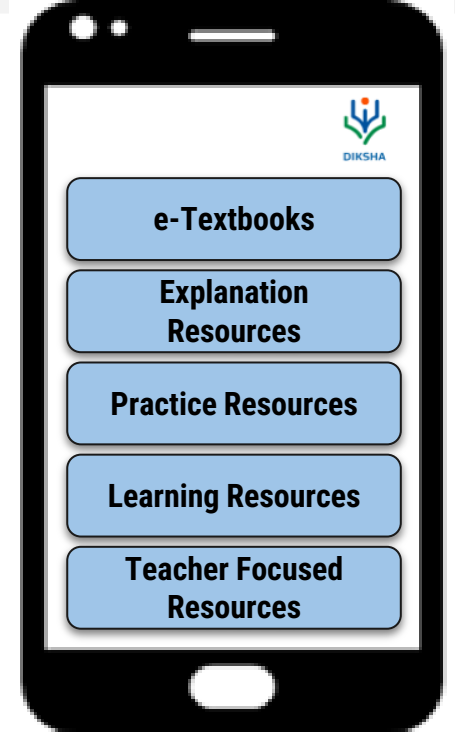
Let's do

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.

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



Enabling learning in 30+ languages



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

10+

Languages / Medium of Instructions



2.5 Million +

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

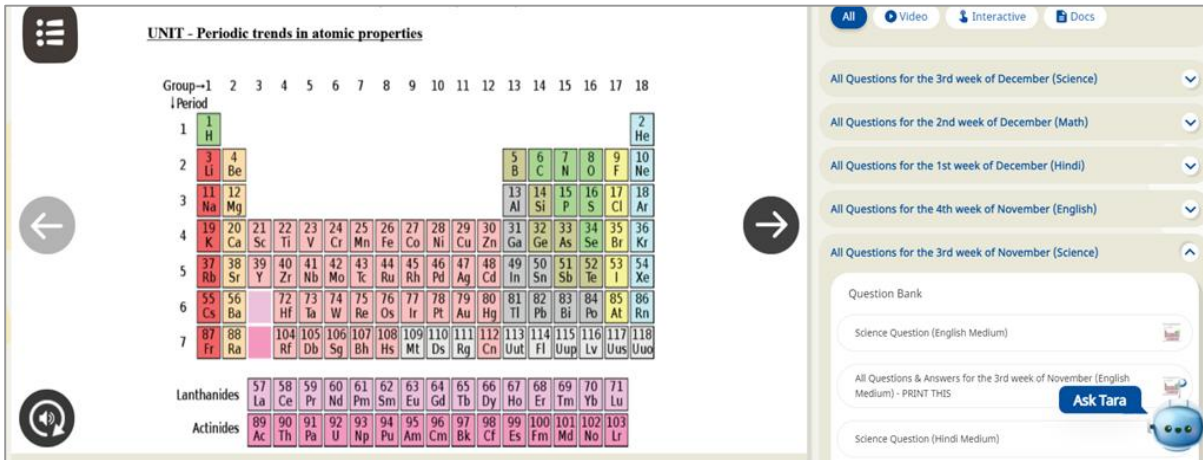
44 Million+

Digital Certificates issued

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

We also conducted a variety of assessments

5 Questions a Week (5QAW)



The screenshot displays the '5 Questions a Week (5QAW)' 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 sidebar with a list of questions categorized by week and subject. The questions are: 'All Questions for the 3rd week of December (Science)', 'All Questions for the 2nd week of December (Math)', 'All Questions for the 1st week of December (Hindi)', 'All Questions for the 4th week of November (English)', and 'All Questions for the 3rd week of November (Science)'. Below the list, there is a 'Question Bank' section with options for 'Science Question (English Medium)', 'All Questions & Answers for the 3rd week of November (English Medium) - PRINT THIS', and 'Science Question (Hindi Medium)'. An 'Ask Tara' button is also visible.

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 the 'Aryabhata Ganit Challenge 2020' quiz interface. It is a mobile app interface with a green 'Join course' button. Below the button, it says 'Last date to join 19/11/2020'. The course details section states: 'This course is relevant for: Class : Class 10, Class 9, Class 8 Medium : English'. The course end date is '19/11/2020'. The description says: 'In this course you learn about Indian Mathematicians and also you practice some questions and then take a math quiz.' There is a 'Credits & License Info' link at the bottom.



The banner for the 'Discover Gandhi Quiz' features a portrait of Mahatma Gandhi. It states: 'Launched on: 2nd October, 2020' and 'The last date to participate in the Discover Gandhi Quiz is extended to 30th January, 2021'. It also mentions 'For Technical Assistance contact support@ndilab.org' and 'For Academic queries contact: ndilab@ndilab.org'.



The banner for 'KNOW OUR CONSTITUTION A Quiz' features the Indian national flag and the DIKSHA logo. It states: 'KNOW OUR CONSTITUTION A Quiz'.

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+

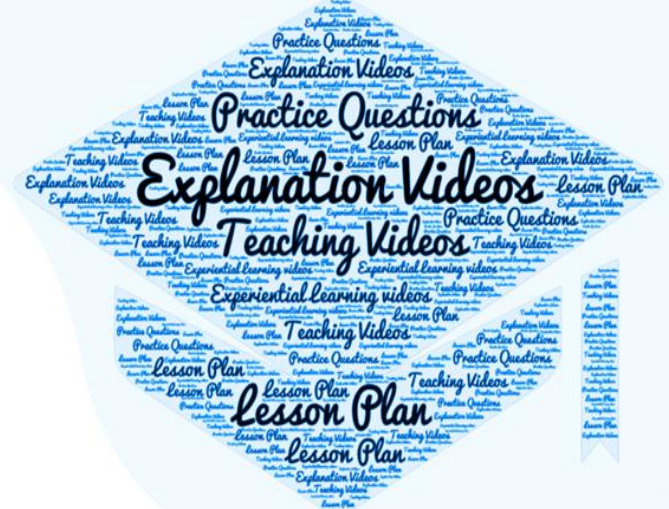
Digital content contributed through VidyaDaan

29,000+

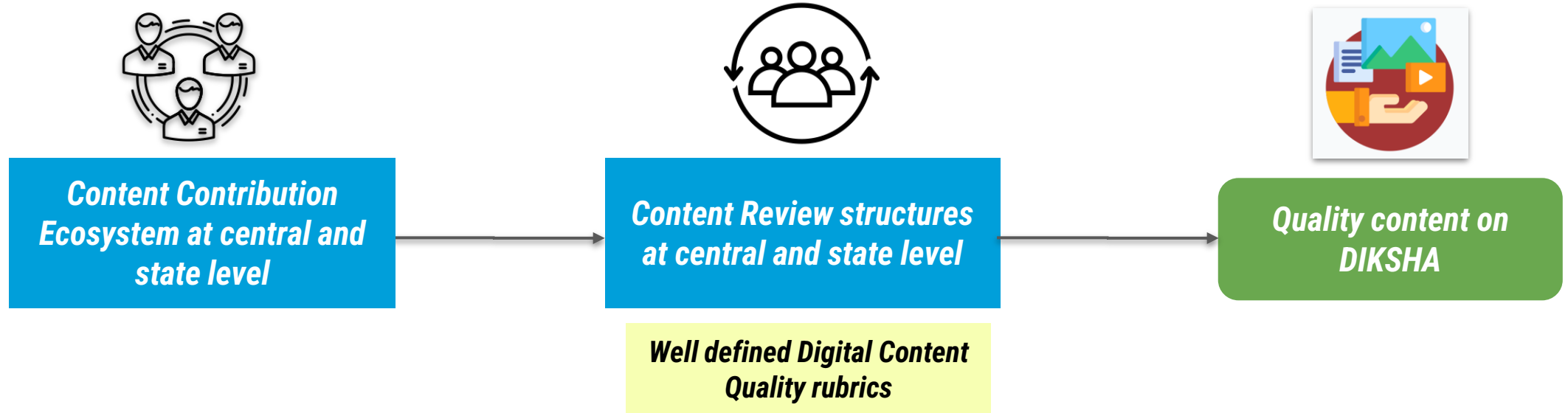
Digital content approved through VidyaDaan



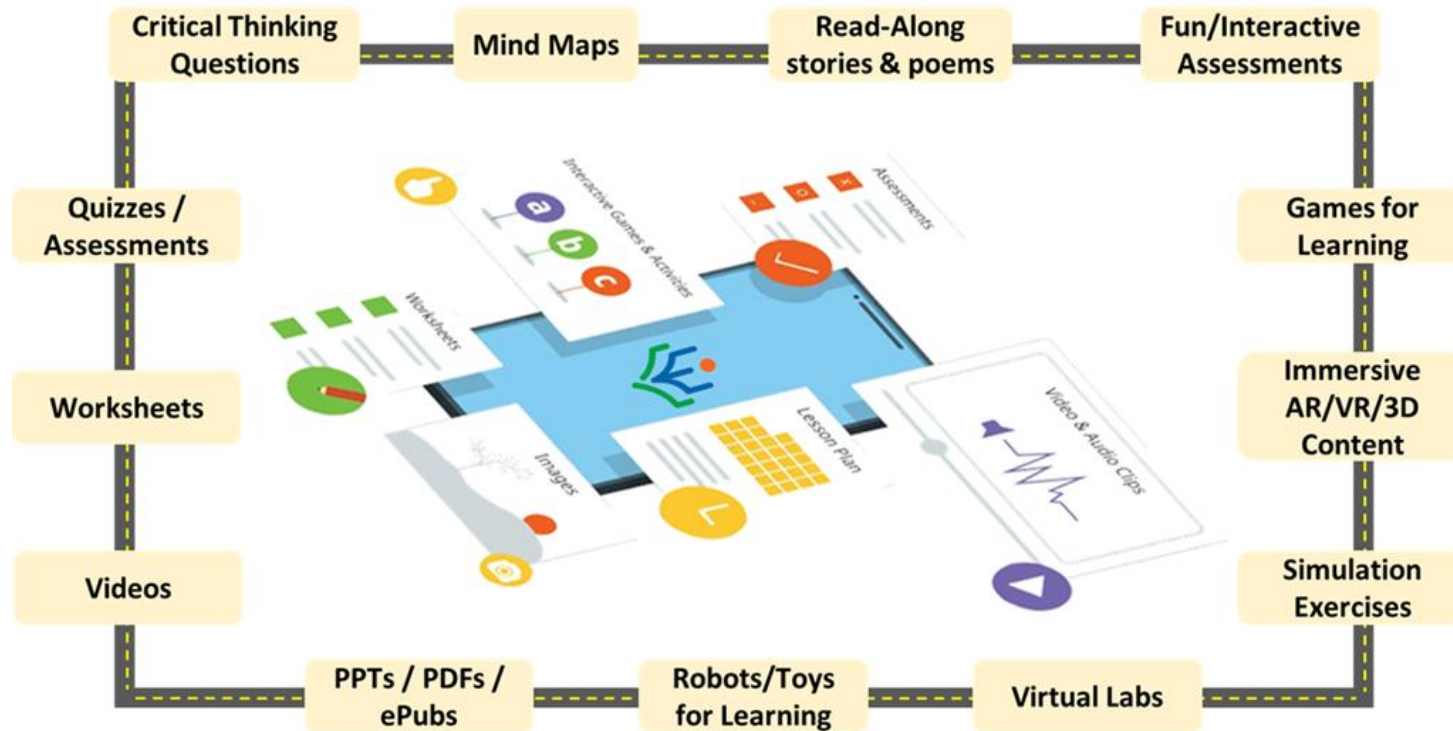
A program of the nation, for the nation and by the nation to ensure continuity of quality learning



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



A journey from content to competence

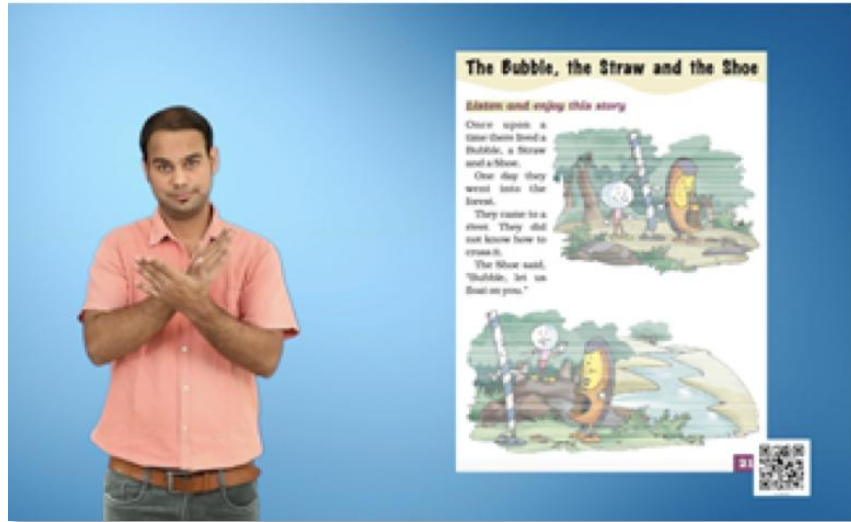
200,000+ Content and Courses

11,000+ Organizations and Individuals contributed

40+ State institutions and Central Organizations

Content is available in 30+ languages

...including content for Children With Special Needs



Content for hearing impaired in sign language



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

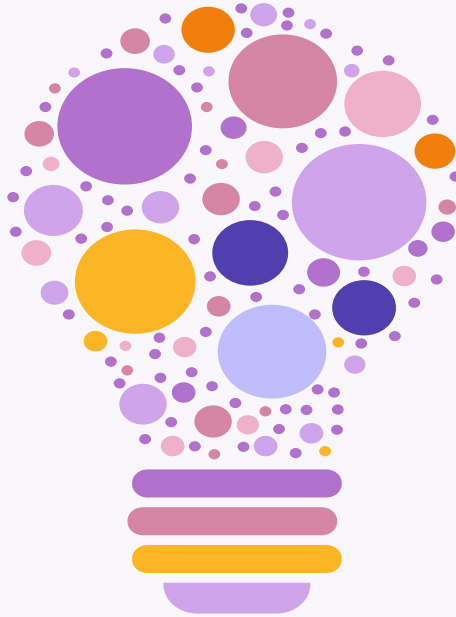
NIPUN Bharat Mission : To achieve universal foundational literacy and numeracy in primary school by 2025

To ensure an inclusive classroom environment.

To enable children to become motivated, independent, and engaged readers and writers with comprehension.

To make children understand the reasoning in the domains of number, measurement and shapes.

To ensure availability and effective usage of high-quality and culturally responsive TLM in children's familiar/home/mother language(s).



To focus on continuous capacity building of teachers, head teachers, academic resource persons and education administrators.

To actively engage with all stakeholders for building a strong foundation of lifelong learning.

To ensure assessment 'as, of and for' learning.

To ensure tracking of learning levels of all students.





































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

Open Source Tech Stack

DIKSHA as Digital Public Good



DIKSHA platform is built on open source : **DIKSHA software code can be easily offered as Digital Public Good** to the world - See <https://diksha.gov.in/help/diksha-oss/> for listing of software within DIKSHA.

As per open data and NDSAP policies : **DIKSHA open data can be offered as Digital Public Good** to the world - See <https://diksha.gov.in/data/datasets/> for open data catalogue of DIKSHA.



As per DIKSHA policy, content on DIKSHA is available under Creative Common (CC) licenses: **DIKSHA Content can be accessed via OPEN APIs and can be offered as Digital Public Good** to the world.

DIKSHA follows privacy by design, data protection principles and has a consent-based architecture. - See <https://diksha.gov.in/term-of-use.html> for Terms of Use and Privacy Policy of DIKSHA



Thank You