Use and Integration of Information & Communication Technologies (ICTs) in Education

Central Institute of Educational Technology(CIET)
National Council of Educational Research and Training (NCERT)
(An Autonomous organisation set up by
Ministry of Education, Government of India)

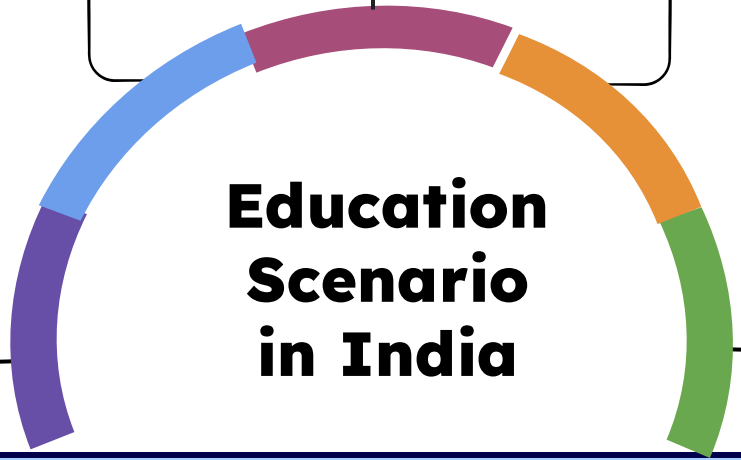
Imparting equitable quality education and lifelong learning is the goal

CPD of **10 million** Teachers is a challenge

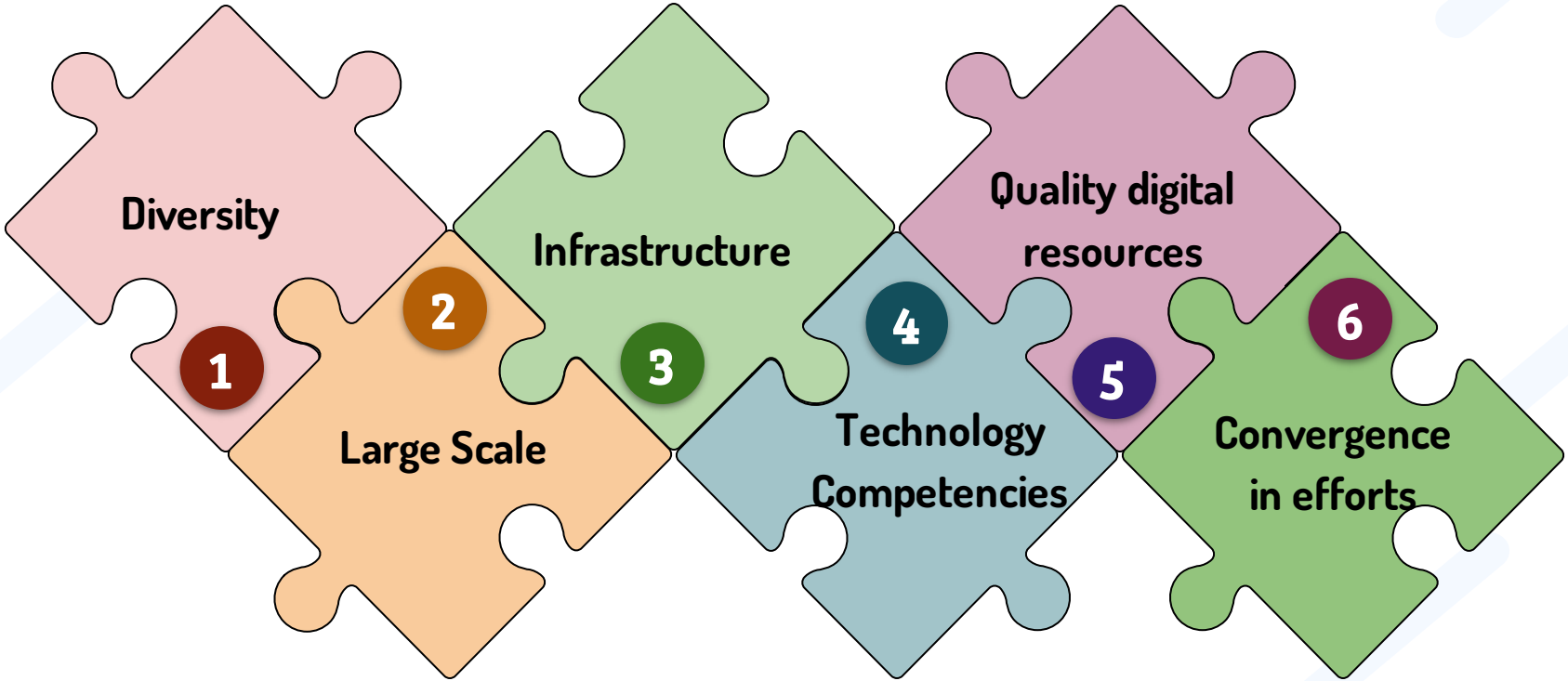
Skill training of youth (two third population)

1.3 bn. People
1.5 million Schools
900+ universities
17000+ TEIs
330 million students

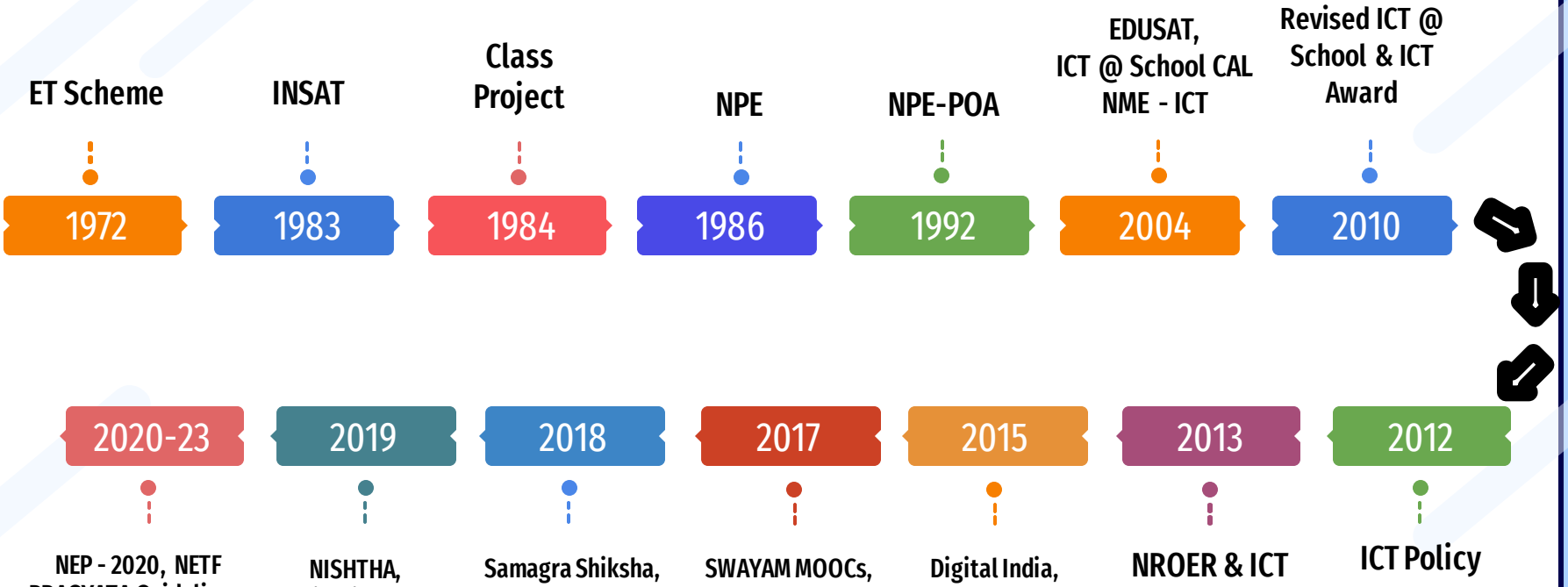
Bridging the Digital Divide is the goal



Issues & Challenges of Implementing Technology in Education



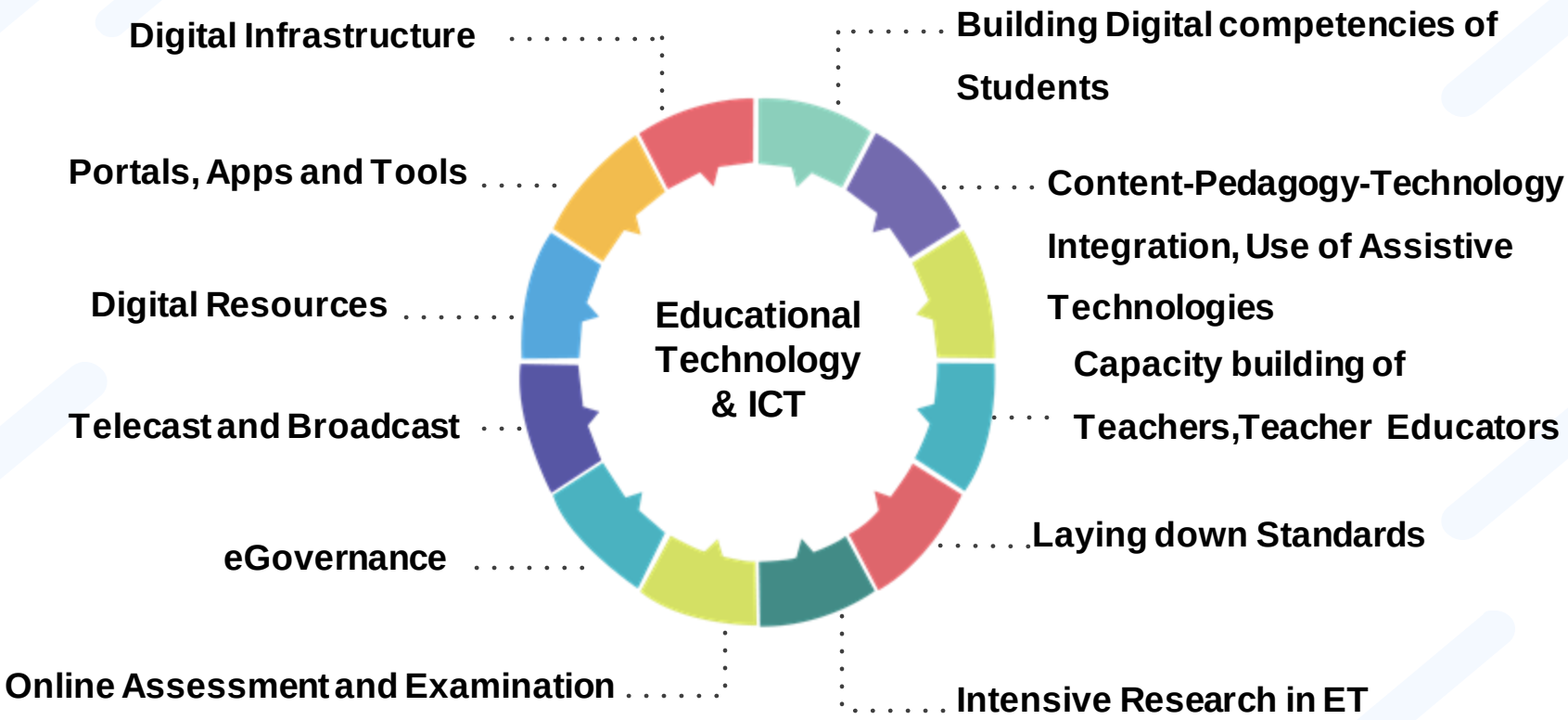
ICT Use in India: Policy Directions



NEP 2020 - Thrust of Technological Interventions

- Teaching-learning & evaluation processes
- Supporting teacher preparation & professional development
- Enhancing educational access
- Streamlining educational management and administration
- Removing language barriers
- Access to Divyang students

NEP-2020: Recommendations for Online and Digital Education



Digital Initiatives

https://www.menti.com/alyh4yo72n2q

Major Digital Initiatives

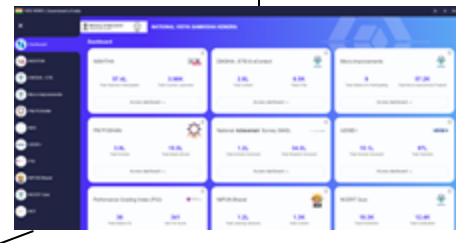
1. PMeVIDYA
2. DIKSHA
3. ePathshala
4. NISHTHA
5. SWAYAM
6. ICT Curriculum

Vidya Samiksha Kendra (VSK)

Vidya Samiksha Kendra : helping us see & monitor policy implementation and drive reforms

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

Visibility: 'Ability to See' in real time



Insights: 'Ability to Make Sense' of data

Actionability: 'Ability to Amplify Actions' through coordinated efforts

https://diksha.gov.in/

Continuous Professional Development (CPD)

NISHTHA	42 Lakh (Ele), 7.2 Lakh (Sec), 12.6 Lakh (FLN), around 1.2 Lakh (ECCE)
CPD Courses	3,67,657 Certificates issued
MOOCs for School Education	3,70,000 enrolled including students, teachers, parents and civil service aspirants
Online Capacity Building on ET/ ICT	4 Lakh + Certificates issued

- Digital Literacy
- Motivation
- Responsibility
- Data
- Incentives

Platforms: MOODLE, SUNBIRD, OPEN edX, Google Course Builder

NISHTHA

NISHTHA (Elementary Level)

NISHTHA (Secondary Level)

NISHTHA for NIPUN Bharat

NISHTHA (ECCE) **(Ongoing)**

18 Courses	12 Courses	10 Courses	06 Courses
30 States/ UTs and 7 autonomous organisations under MoE and MoD	33 States/UTs and 8 autonomous organization under MoE, MoD and MoTA	33 States/UTs and 5 autonomous organizations under MoE	29 States/ UTs initiated POs, CDPOs, Supervisors, DIET faculty from DRU for NFE & AE
11 language - Assam, Bengali, Bodo, English, Kannada, Hindi, Telugu, Odia, Gujarati, Punjabi, Urdu	10 language - Hindi, English, Urdu, Gujarati, Punjabi, Telugu, Kannada, Bengali, Marathi and Odia	11 language - Hindi, English, Urdu, Gujarati, Punjabi, Telugu, Kannada, Odia ,Bengali, Marathi and Mizo	2 languages - Hindi , English
42 Lakh	**7.2 Lakh**	**12.6 Lakh**	**Target -1.2 Lakh**

https://nishtha.nic.in/

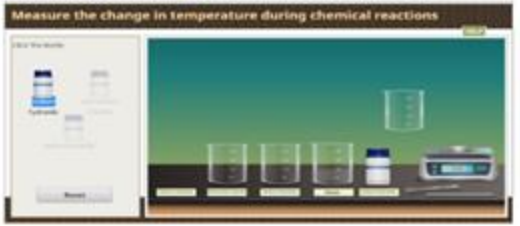
Virtual Labs

200+ Virtual Labs

Glimpses of AR, VR labs and Experiential learning center

Virtual labs
Developed in collaboration with CDAC (Mumbai) and AMRITA Vidyapeetham
Available on DIKSHA portal/app

Link for Virtual Labs vertical- https://diksha.gov.in/virtuallabs.html



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Glimpses of AR, VR labs and Experiential learning center

https://diksha.gov.in/virtuallabs.html

Phygital

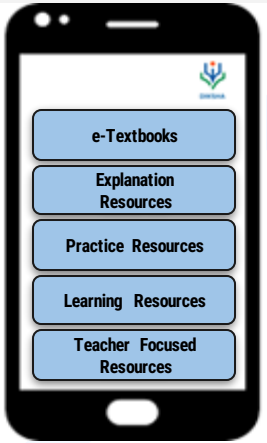
Bridging of physical and digital worlds by 'energizing' textbooks...

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

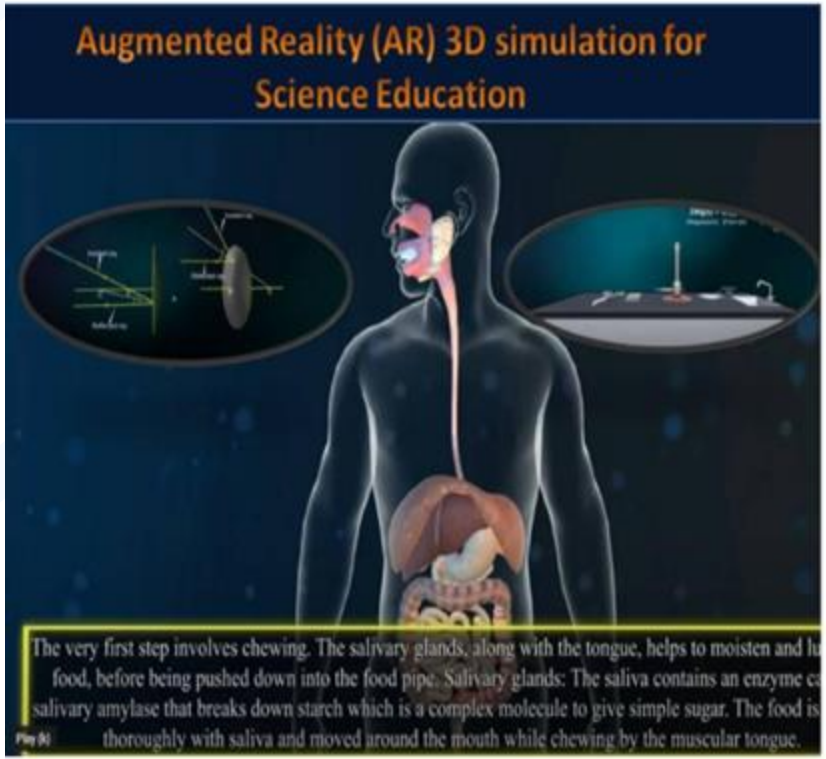
State board, Grade 5th Textbook

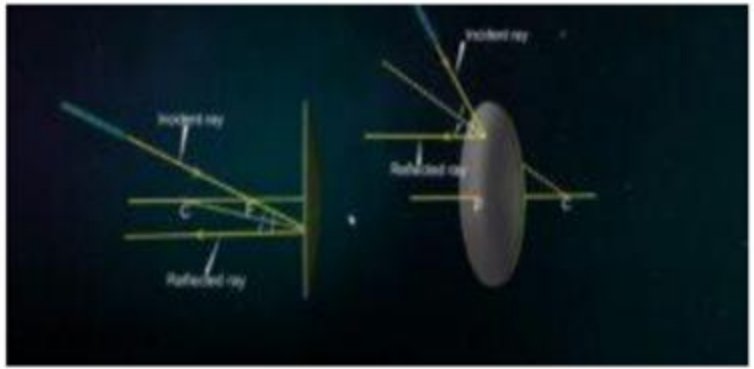
NCERT, Grade 8th textbook

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



Augmented Reality (AR)





https://play.google.com/store/apps/details?id=com.ncert.ARApps&hl=en_IN&gl=US&pli=1

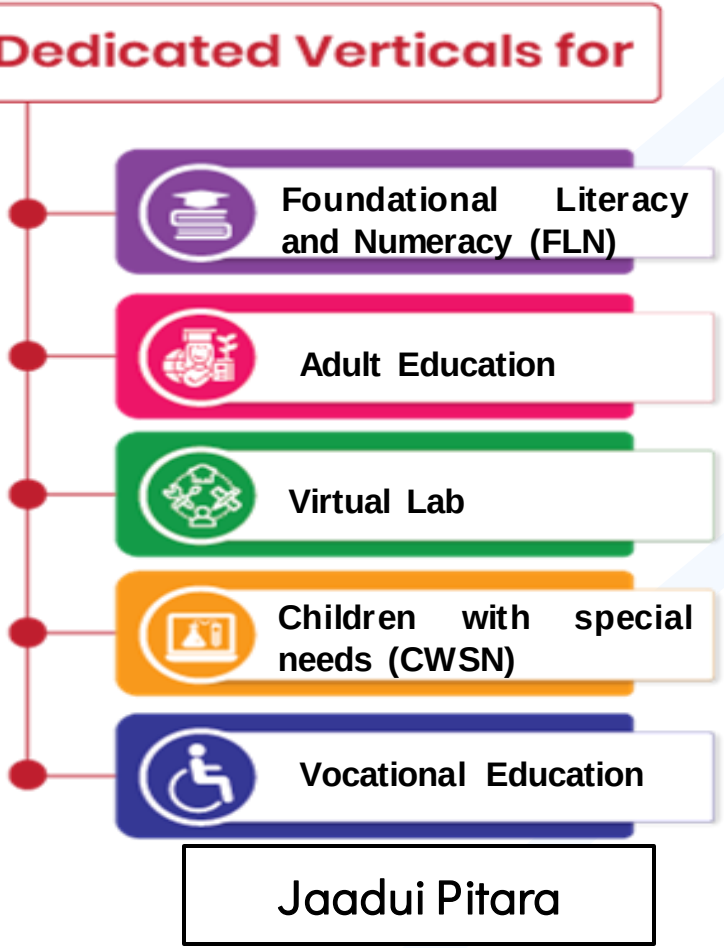
Experiential Lab

Glimpses of AR, VR labs and Experiential learning center

Experiential Learning Centre
Developed in collaboration with Jubilant Bhartia and Ganpat University

DIKSHA

- **Repository of Open Educational Resources**
- **Collaborative Platform**
- **Curriculum-aligned content**
- **Analytics**
- **Multilingual support**
- **Offline access**



https://diksha.gov.in/

DIKSHA

- 6500+ ETBs by States / UTs
- 3,12,930+ eContent
- 9300 + eCourses
- 31.2 million page hits on daily basis
- Supports 36 languages Including 22 scheduled languages and indian sign languages (ISL).

https://diksha.gov.in/

DIKSHA

DIKSHA's building blocks were used for multiple use cases

Energised Textbooks

Teacher Professional Development

Question Bank

Content Sourcing

Content Authoring

Quizzes

Content Consumption

Data Tools & Dashboards

Chatbot

Vidya Samiksha Kendra - CCC
System to monitor, mentor, manage the whole ecosystem

Digital Credentials

Collaboration

Phygital

cQube

Surveys

Language Translations

Mentoring

Sunbird Registry and Credentials

CIET - NCERT develops…

variety of digital contents

- Energized books
- Assessment questions
- Infographics
- eCourses
- Guidelines/ Handbooks
- Videos, UDL videos
- Interactive & Immersive content
- Audios, Talking Books, Audio Books
- Worksheets

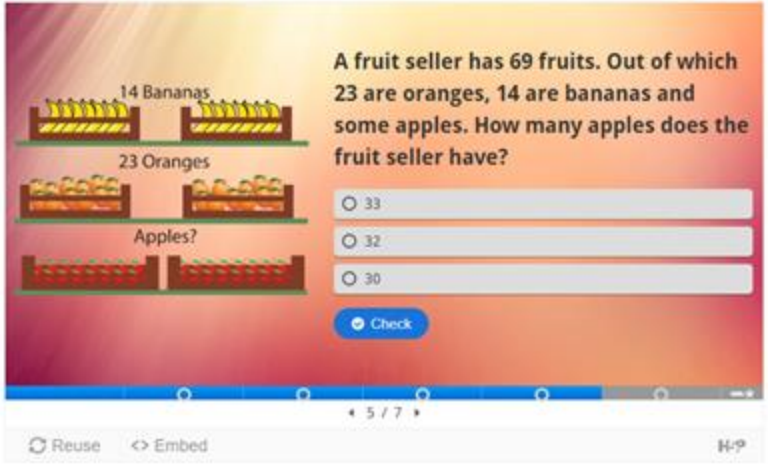
eContents ….

- eContent in curricular and generic areas various Indian Languages
- Age appropriate content for various stakeholders - Students, Teachers, Teacher Educators, Parents etc
- Universal Design of Learning (UDL) based content
- Collaboration and Partnership

Game Based Learning

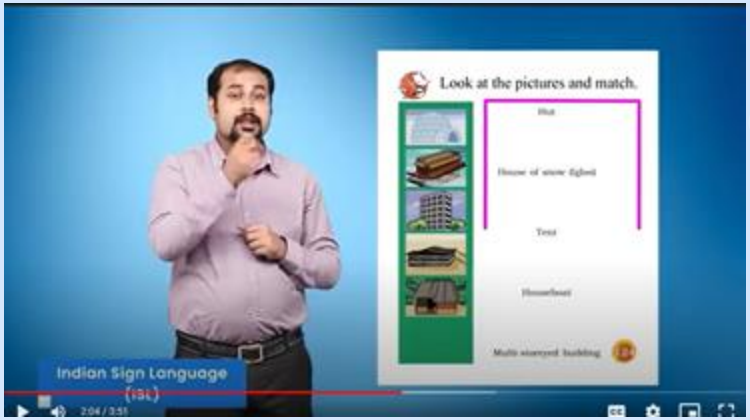
Place Value(Ones, Tens and Hundreds)

Addition and Subtraction

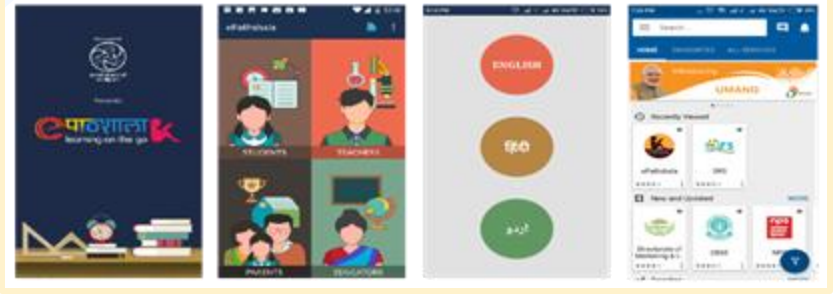


http://itfdigitalgames.ncert.org.in/

eContents based on UDL



ePathshala



 # 19,29,88,268 visitors on Portal
 # 30 M users in UMANG

App Rating

- 4.3 on Google play store
- 3.5 on Apple Store

App downloads/Users

- 55,47,565 on Google
- 21,61,272 on Apple

 # Total Books as ePub: 608
 # Total no of Flipbook: 539

https://https://epathshala.nic.in/

Dissemination through Educational Apps

DIKSHA | ePathshala | NISHTHA | PMeVidya - AR | NAS | ePathshala Scanner | SSP Mauritius | NCF | DiSaNC | PRASHAST

PRASHAST

https://play.google.com/store/apps/details?id=com.dscs.app&hl=en_IN&gl=US&pli=1

https://ncert.nic.in/pdf/DSCS_booklet.pdf

PM e-VIDYA

PM e-VIDYA focuses on unification of efforts, enabling multi-mode access to education

PM e-Vidya focuses on developing multi channel learning continuum

Television	Radio	DIKSHA	Special e-Content	Online Courses
One Class, One TV Channel	Radio Broadcast / Podcast/ Community Radio	One Nation, One Platform	E-content for specially abled DIVYANG (CWSN)	Online Courses for School Education

DIKSHA, Television and Radio are the focus of discussion for resilient and coherent access

https://www.swayamprabha.gov.in/

NCERT has leveraged DIKSHA to enable Coherent Access

Easy access of content for Chapter wise across grades and subjects through DIKSHA, TV, Radio

Present status of PM eVIDYA 12 DTH TV Channels

6,789 video programmes
Both in English and Hindi medium for classes 1-12

4,247 ISL Programmes
ISL video lessons telecast

5,416 Live Show
Covering 3435.5 hours based on AAC

9,422 Content Reviewed
NCERT, NIOS, NVS, RILM, States/UTs

3,994 pieces of curriculum-based radio programmes broadcasted on 398 Radio Stations & 2,557 live sessions on iRadio and JioSaavn Mobile apps

Television

- 12 DTH TV Channels on 24×7 basis daily and simulcast on Jio TV App, Private cable operators, YouTube channel etc.
- 6,903 curriculum based videos developed for school education in English, Hindi including Indian Sign Languages (ISL) including vocational education
- One hour live session for each class for clarification of doubts
- IVRS support for addressing queries of students

Radio

3,980 pieces of curriculum-based radio programmes (Classes 1 -12)

Broadcast on 400 Radio Stations (11 GyanVani FM Radio Stations, 257 Community Radio Stations, 132 All India Radio stations), iRadio and JioSaavn Mobile apps

2,476 live programs podcast on iRadio

Radio

3980

Curriculum based radio program(Class 1-12)

400

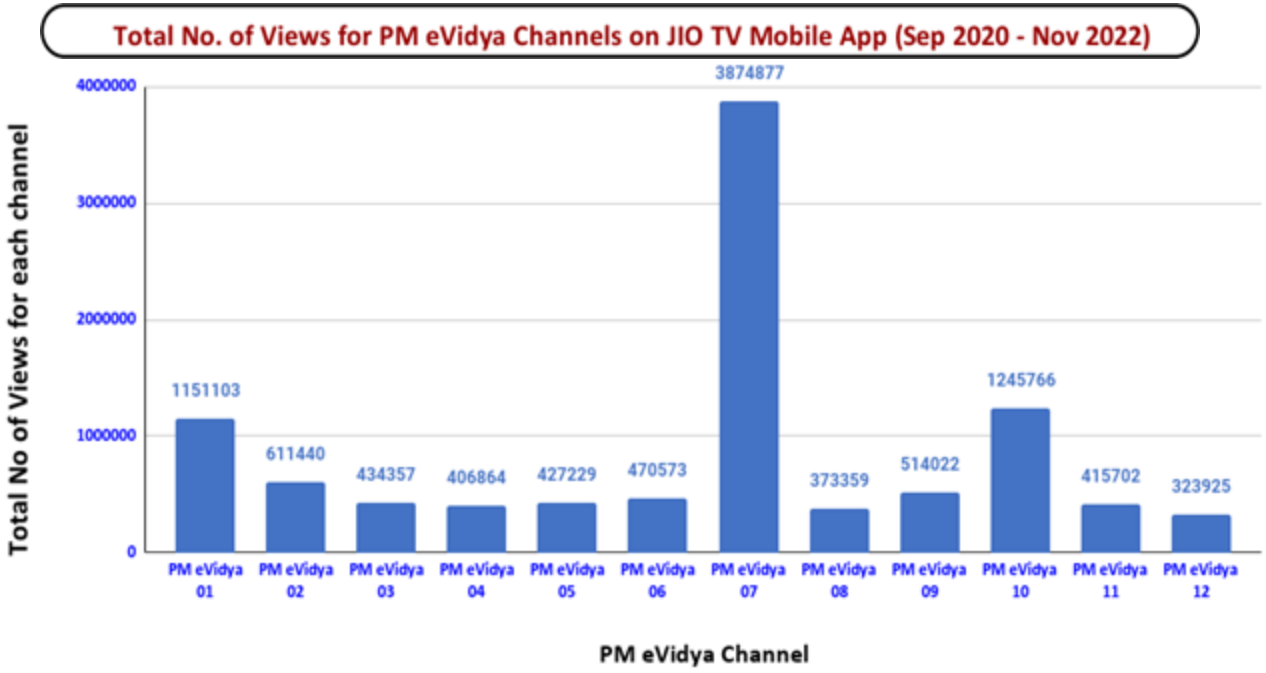
Radio Stations

2476

LIVE radio podcasts

Viewership details

PM eVIDYA Channel



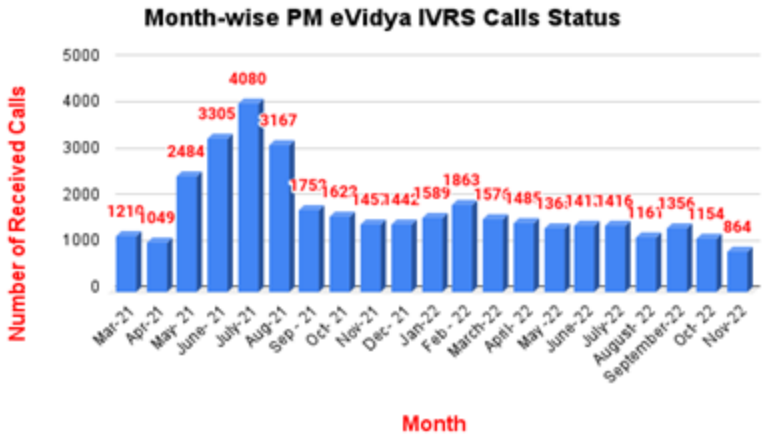
Feedback Mechanism

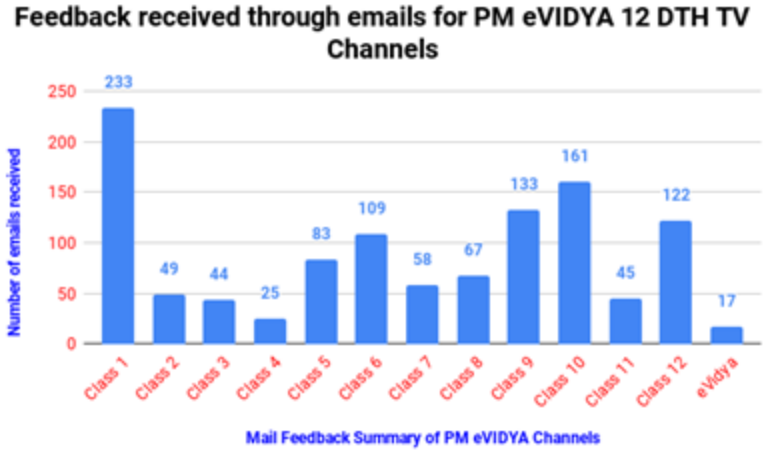
IVRS, Email & WhatsApp Group

Radio Broadcast

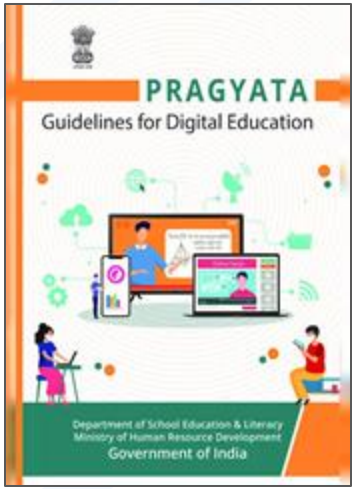
TV Telecast

- Email: **1,182** Emails received
- PM eVIDYA IVRS no. (8800440559)- **40,949** calls received
- Manodarpan IVRS no. (8448440632)- **23,714** calls received



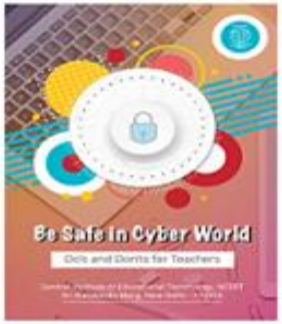


Standards & Guidelines for Digital Education



Cyber Safety Guidelines

English



Hindi

https://ciet.nic.in/pages.php?id=booklet-on-cyber-

International Collaboration

Trained master trainers of Mauritius on developing and disseminating OER, Developed a portal and mobile app

School Online Programme - Collaboration between Indian and Israel Schools

Trained master trainers of Nepal on developing and disseminating eContents and OER

School Online Programme - Collaboration between Indian and Korean Schools

Shared eContents developed by NCERT

Appreciations

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