Samagra Shiksha
Andhra Pradesh

Government of Andhra Pradesh
Department of School Education

Ed Tech / IT initiatives of Andhra Pradesh

Andhra Pradesh has begun it's journey in Digital Reforms since

2014

The Department of School Education has been implementing several interventions and realized the need for *IT Intervention* as:

- Importance to introduce Real-Time Governance by bridging gaps
- Seamless service delivery to last mile point (Direct Benefit Transfer)
- Streamlined, transparent & accountable administration
- The Department visualized building a child-focused education model as a part of Class Room environment.
- Teacher capacity building through online platforms.

Presentation overview

1. SIMS
2. Implementation of E- Hazar
3. AP-DIKSHA, Digital & Virtual class Rooms
4. Personalized Adaptive Learning
5. School Transformation - Nadu –Nedu JVK

Journey So Far

2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Created Student Information	Integrated Student Information with UDISE	Mandated Aadhaar/EID in Student & Teacher Information	Introduced eHazar	Implemented eHazar in All Govt. Schools covering 92% Teachers	Administration of school transformation system NADU-NEDU	Conducted 200 hours of online training to all teachers.
Child Info: 64.5 Lakhs Aadhaar Seeding: 52% UDISE: 72.1 Lakhs	Integrated UDISE: 69.6 Lakhs Aadhaar Seeding: 92%	Integrated UDISE: 68.5 Lakhs Aadhaar Seeding: 100% Govt. Teacher Data 1.76 lks	Aadhaar enabled Biometric Attendance	Achieved 97% Aadhaar enabled Biometric Attendance	100% achieved in using the application	Achieved 95.4% teachers completed online courses.

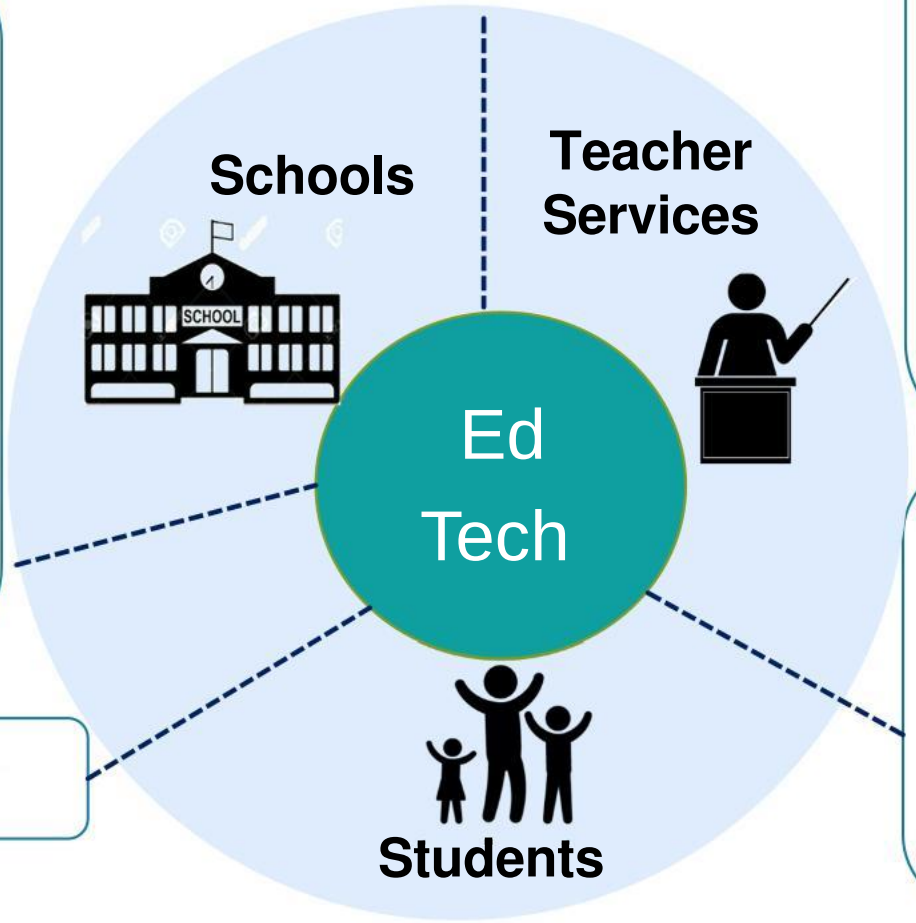
Leveraging Ed Tech -3 Verticals

School Information

- Infrastructure & Facilities
- Mid-Day Meal Management
- eHAZAR - AEBAS
- Rationalization of Schools
- Analytics and integration
- Nadu-Nedu
- App Based monitoring.

Community

- Amma Vodi



Teacher Profile

- Attendance
- NOC
- Medical reimbursements
- Online teacher transfers & web counselling
- Leave Management
- Grievance Redressal
- Online teacher training

Student Profile

- Transition & Dropout Tracker
- Student Assessments
- Energized Textbooks
- Uniform distribution
- Bicycle distribution
- Mid-day meals
- JVK

Key Input Modules

UDISE +

Student Information System

Student Assessment System

Teacher information System

Teacher Attendance

Midday meal Information System

Asset Management System

CPD

Student Information System

An Initiative towards tracking every School Aging Children

* Personal Information
* Academic Information
* Health Information
* Family Information
* Benefits received
* Disability Information

* 70 Lakhs student's data with 99.89% Aadhaar Seeding is collected (Age Group 5-15).

* Text Books - Rs. 27.44 crores saved
* Huge budgetary savings in MDM
* To track Dropout Students

UDISE+

Single Source of Truth

* School Information
* Facilities Provided
* Infrastructure Information
* Vocational Information

* 62,302 Schools Data is captured with all the variables

* To provide Reliable data to all Schemes
* Cross Data Validation in decision makings
* To Calculate Reliable indicators

Teacher Information System

Teacher Information System (TIS) is an integrated technology-based system to enable end-to-end Collective information of the teachers working in the state.

* Personal Information
* Academic Information
* Family Information
* Service Details

* 1,84,000 Teachers are on boarded with all the details . Any Teacher can View/Edit his information from any place/any time.

* Transparent and speedy process in issuing of NOC and Medical Claims.
*Online Teacher Transfers and Rationalisation.
* Class Subject Section Teacher Mapping with Students.

Teacher Training Support System

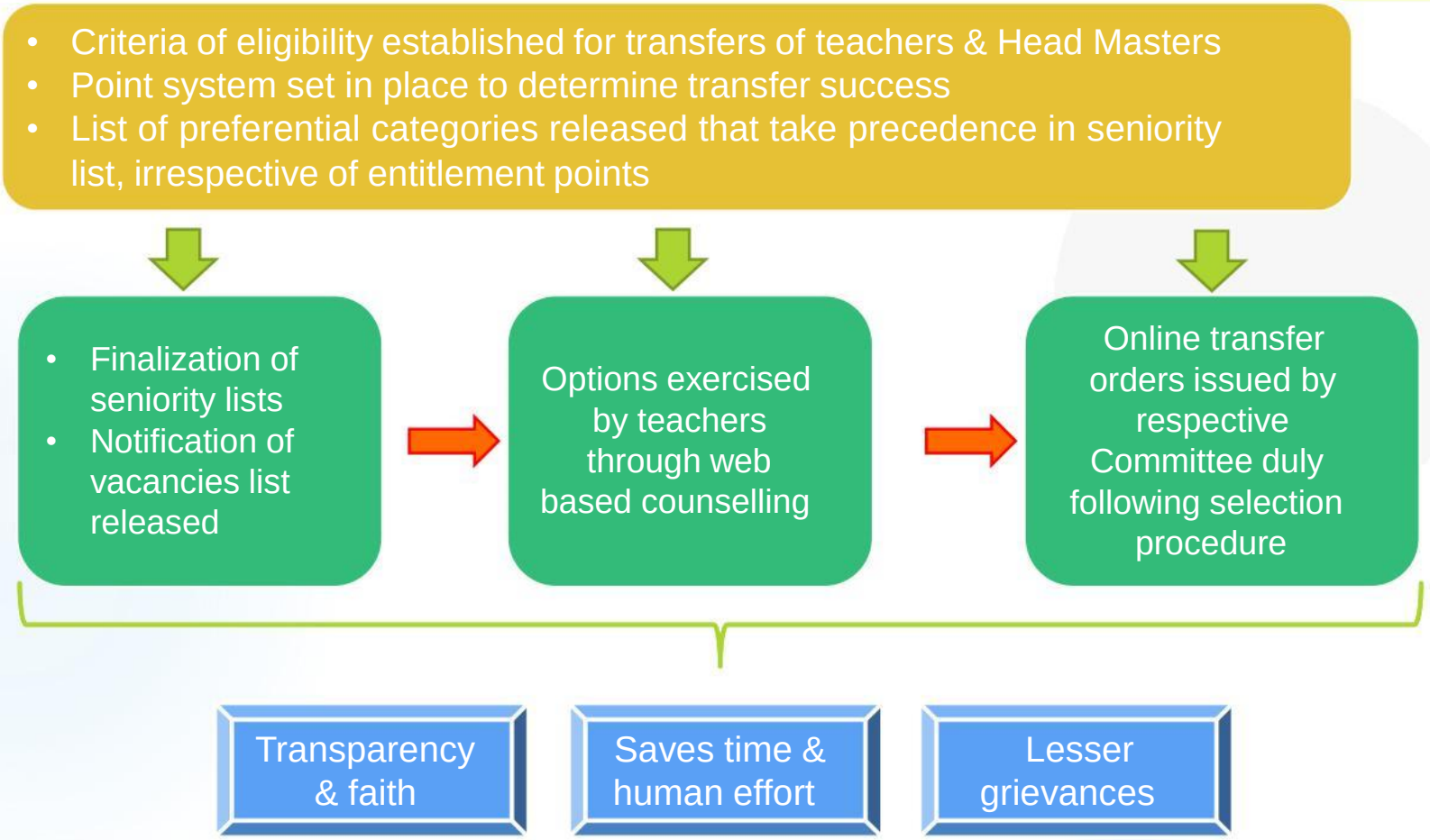
To enable end-to-end effective and efficient planning, execution and monitoring all in-service trainings / workshops in the state conducted by various stake holders under school education department.

* Creation and Execution of Trainings
* Dispersal of amount to the participants

* Various Trainings conducted by the SCERT
* Used in DCR and VCR Trainings.

* Transparent Disbursement of Honorariums to last mile point within a Day.

Online Teacher Transfers & Web Counseling



E-Hazar

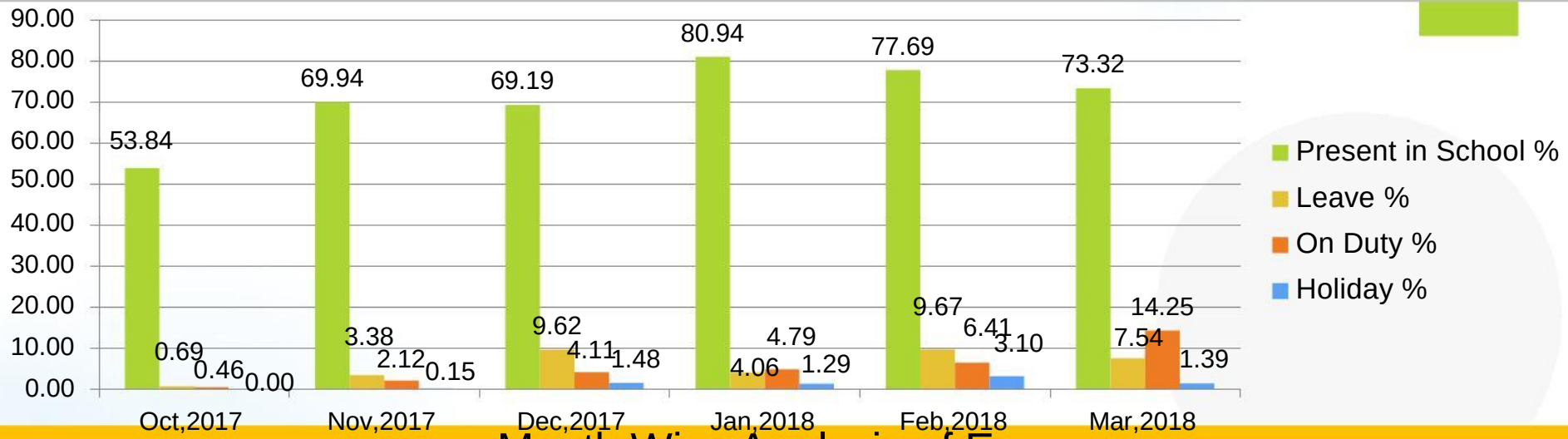
Aim to Aadhaar-Enabled Biometric Attendance System (AEBAS) to capture Daily Attendance of Teachers at School points.

* APTELS (Leave Management System)
* Linked with TTSS

* 1,86,000 Teachers are making Attendance Twice in a day seamlessly.

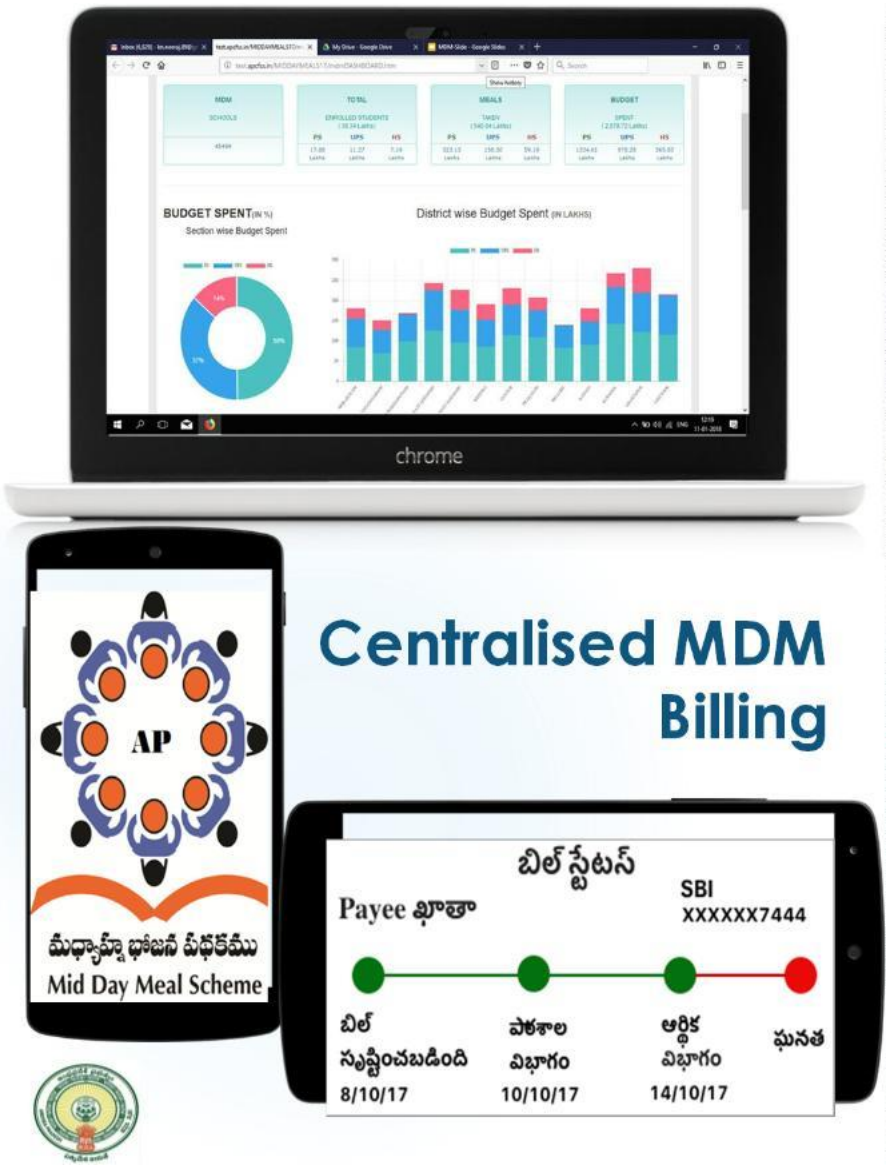
* Teacher can apply leave virtually.
* Reduces leakages in Teacher Absenteeism.

Monthly Analysis of *e-Hazar* (Attendance, OD, Leave and Holiday)



Month Wise Analysis of E-Hazar

Month	Total Teachers enabled eHazar	Total Teachers Present	Attendance %	On Leave	Leave %	On Duty	On Duty %	On Holiday	Holiday %	Total Teachers marked eHazar & APTeLS	% of Attendance after considering Leave/Duty Holiday
Oct	134687	91290	53.84	945	0.69	595	0.46	0	0.00	133149	68.41
Nov	153622	107926	69.94	5212	3.38	3263	2.12	263	0.15	144906	75.42
Dec	157876	109805	69.19	15308	9.62	6377	4.11	2401	1.48	133819	84.39
Jan	175280	129999	80.94	6994	4.06	8390	4.79	2268	1.29	147651	92.01
Feb	164897	128523	77.69	16053	9.67	10483	6.41	4906	3.10	159964	96.87
Mar	170985	125439	73.32	12871	7.54	24212	14.25	2435	1.39	131471	96.48



MDM Monitoring

METRIC	EARLIER…	NOW…
Bill payment time	2 to 3 Months (avg.)	15 Days (Avg.)
Numbers	Inflated/wrong numbers of attendance and enrolment	Meals Taken/Attendance linked to Enrolment Database (SIMS) and eventually to Biometric
Person Hours Saved	80% of DEO/MEOs official Hours spent on MDM bill clearance	Saved 100s of hours put by DEO/MEO every month which will be utilised for MDM monitoring purposes
Bill payment status	Cook, Helpers, HM did not have any idea about the status of MDM bills	Complete transparency in bill status and amount through NIC app and SMS to stake holder at each stage

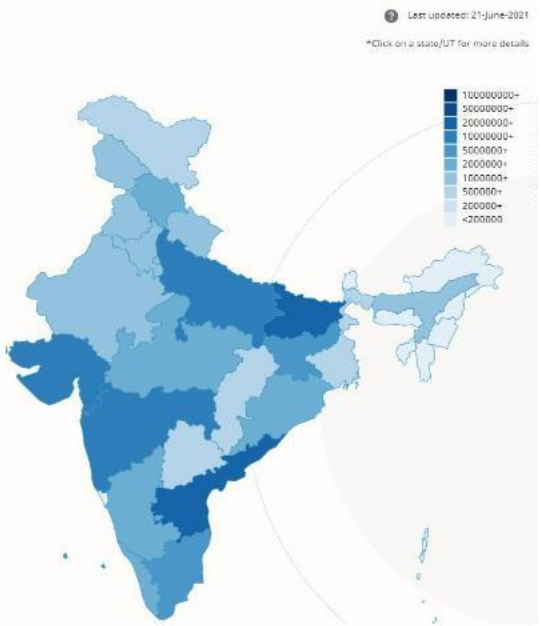
AP- DIKSHA - Journey so far

DIKSHA GOT FIRST POSITION IN INDIA IN CONSUMPTION OF THE CONTENT

View the usage pattern across the nation and all the states

India

	STATE / UT	Total Learning Sessions
1	Andhra Pradesh	17 Million
2	Bihar	17 Million
3	Gujarat	8.54 Million
4	Uttar Pradesh	5.66 Million
5	Maharashtra	5.16 Million
6	Jharkhand	4.64 Million
7	Tamil Nadu	2.37 Million
8	Karnataka	1.69 Million
9	Madhya Pradesh	1.59 Million
10	Odisha	1.11 Million



Items	Numbers
No of learning sessions	17 Million
No of teachers downloaded the app and utilizing.	1.4 Lakh
No of teacher who having Content Creation rights	35000
No of content pieces prepared	86000
No of Online courses prepared and opened for teachers	34

DIKSHA –DIGITAL INFRASTRUCTURE FOR KNOWLEDGE SHARING

E-CONTENT TRAINING PROGRAM

- DIKSHA e-Content Creation training is designed for increasing content creators in DIKSHA and also to create quality e-Content a 3 Day training to the teachers at district level on DIKSHA e-Content.
- Awareness on DIKSHA, Multimedia repositories, CC-Rules, techniques on photography, video shooting, story board writing, using of different Mobile APPs, and also will get expertise on Inkscape, Open shot and free mind FOSS tools.
- The training was conducted hands on by hiring well equipped computer labs from reputed engineering colleges.

State Level - 130 SRGs Trained

- 06-01-2021 to 08-01-2021
- Hands on training was given for 3 days. 130 Videos were prepared and uploaded in DIKSHA.

District Level - 1300 DRGs Trained

- 20-01-2021 to 23-01-2021
- Hands on training was given for 4 days. 1300 Videos were prepared and uploaded in DIKSHA.

Divisional Level - 4850 MRGs Trained

- 27-01-2021 to 30-01-2021
- Hands on training was given for 4 days. 4850 Videos were prepared and uploaded in DIKSHA.

Energized Text Books

- All textbooks from class I to X are energized. Pre-primary and career and guidance textbooks are also energized

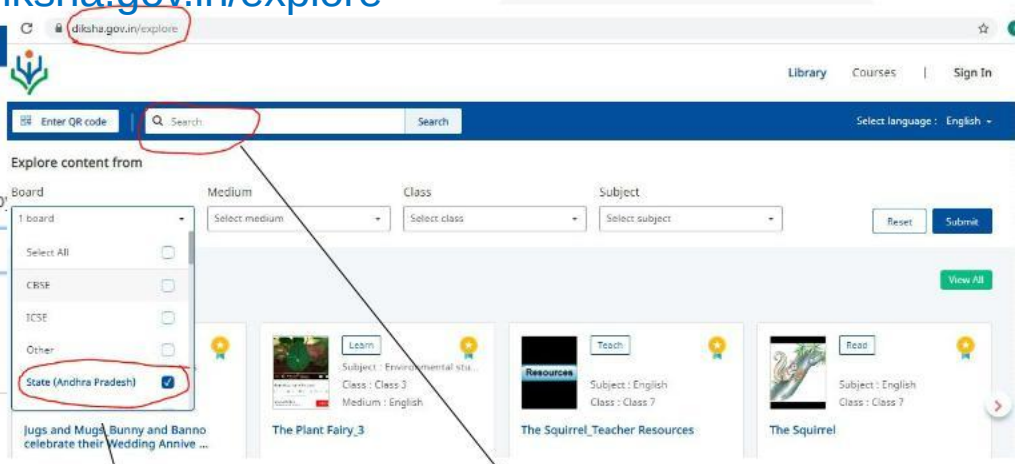
Verticals / Use-Cases of DIKSHA

As on today, DIKSHA has the following verticals / Use-cases,

- Teaching Learning Content (TLC)
- Content Creation Tool
- Teacher Professional Development (TPD) Online Courses
- Interactive Assessment Platform
- Dashboard - To track usage data
- QR code enabled Energized Textbooks

Channels to access content on

Content on DIKSHA can be viewed on Smartphone, Tablet, Laptop, Desktop, Digital classroom (DCR)
using DIKSHA App. (android) (or) On Web Portal diksha.gov.in/explore



Scan QR code printed on the textbook suing DIKSHA App.

On the Portal, Enter 6 digit code printed under QR code

On the Portal, By applying filters – State/Medium/Class /Subject

On the Portal, Using Search Bar – search based on the word/topic name

VCR

Key Objectives:

1. Setup a Cloud based Virtual Classroom solution for interactive teaching & learning experiences.
2. Highly skilled expertise to conduct remote classes.
3. Live, interactive sessions.
4. Real time performance evaluation of system

Scope of Project

4000
Schools allotted for VCR

13
Total number of district studios

1
Central studio

Phase-1

Milestone 1: Completion of Central studio, 13 District Studios & 1000 VC rooms & LMS config.

Milestone 2 : Completion of additional 1500 Virtual classrooms

Milestone 3 : Completion of balance 1500 Virtual classrooms

Phase-2

O & M phase: Duration of 3 years from the date of issue of Commencement/ Go-Live certificate

Features:

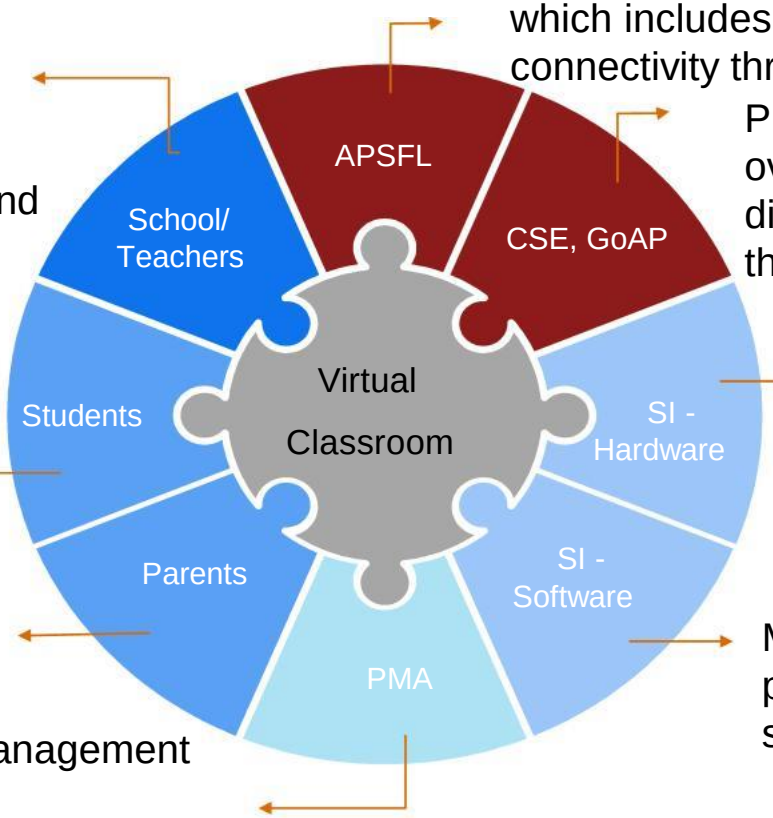
1. Online monitoring & Request Tracking Systems
2. Learning Management System
   - Digital Curriculum
   - Personalized learning
   - Better engagement/ understanding
2. Assessment
   - Clicker based assessment
   - Competency attained learning
3. Analytics
   - Students performance
   - Teacher performance
4. Lessons Delivery
   - Online & offline content
   - Remote lecture by experts

Stakeholders in VCR

Network backbone for VCR which includes last mile connectivity through its LMAs

Play a vital role in conduct and sustainability of virtual classrooms as SMEs and content creators

Project Owner, Provides overall guidance and direction to implement the project



Ultimate consumer of the project through the digital learning evolutions.

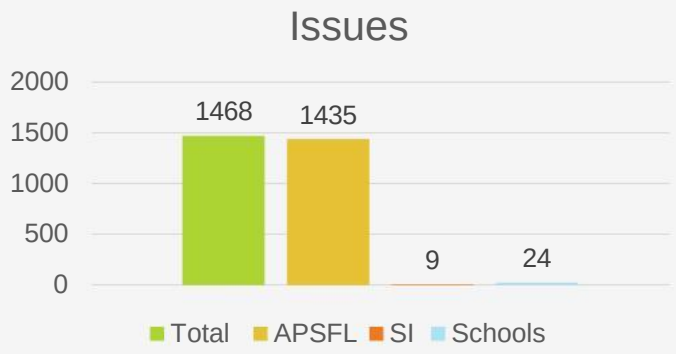
M/s Trigyn - Lead consortium partner, responsible for system integration and O&M of the project

Collateral consumers of the project as wards get quality education

M/s Gumbi– Consortium partner and responsible for software developments

M/s PwC – Project Management Agency for effective implementation and support to VCRs Project .

Challenges & Way forward



- Infrastructure efficacy and security
- Reliable connectivity - Internet/Intranet
- Effective content development and delivery.
- Relay of live sessions/ content
- School ownership
- SLA Monitoring

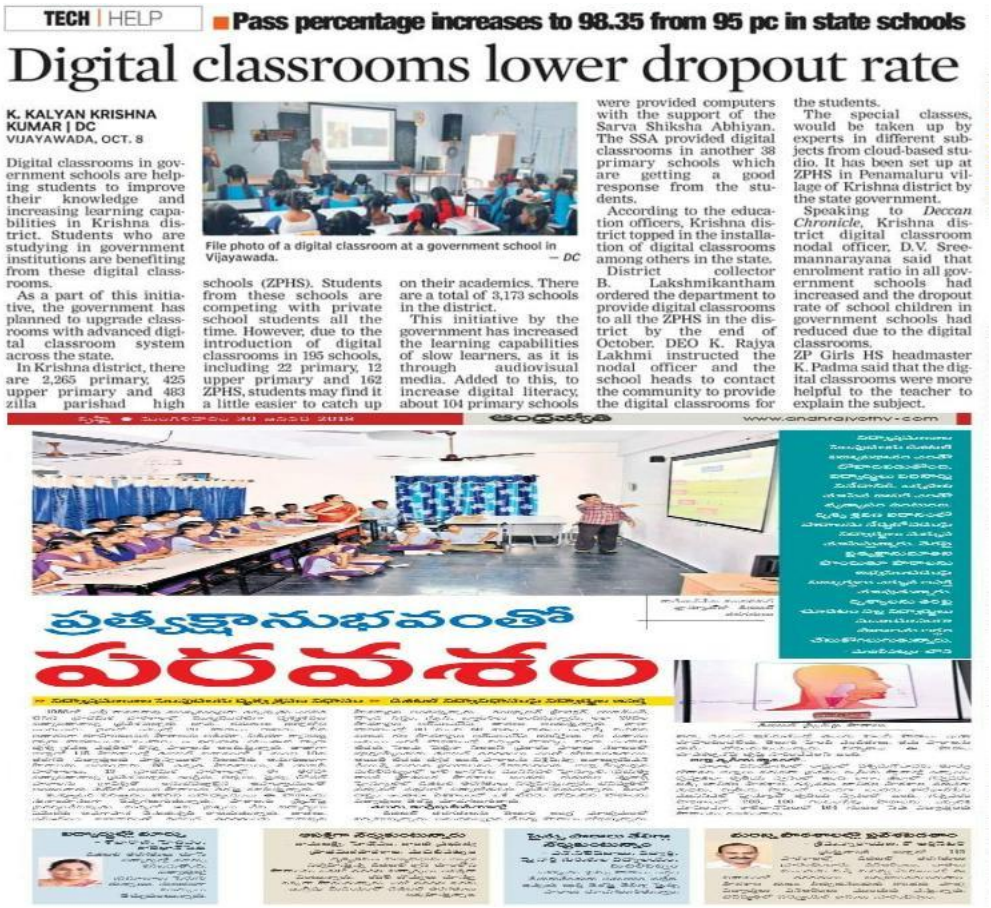
- Asset tracking & security
- Stable connectivity
- Use of network monitoring mechanisms
- Execution of SLAs & monitoring
- School level operational staff & awareness
- Incentivizing stakeholders
- Digital/ multimedia content & not ppts
- Solar panel installation for Studio & Schools Management

Digital Classrooms

Target-5000 Schools

District	Average Usage (12/06/2019-05/09/2019)
PRAKASAM	152.57
EAST GODAVARI	140.34
KRISHNA	118.03
WEST GODAVARI	105.41
GUNTUR	99.35
VISAKHAPATNAM	94.31
NELLORE	60.38
KURNOOL	52.23
ANANTHAPUR	46.56
VIZIANAGARAM	46.31
SRIKAKULAM	45.04
KADAPA	36.54
CHITTOOR	29.22
Average Usage Per School	79.1

Achieved-4276



TECH | HELP

Pass percentage increases to 98.35 from 95 pc in state schools

Digital classrooms lower dropout rate

K. KALYAN KRISHNA KUMAR | DC
VIJAYAWADA, OCT. 8

Digital classrooms in government schools are helping students to improve their knowledge and increasing learning capabilities in Krishna district. Students who are studying in government institutions are benefiting from these digital classrooms.

As a part of this initiative, the government has planned to upgrade classrooms with advanced digital classroom system across the state.

In Krishna district, there are 2,265 primary, 425 upper primary and 483 zilla parishad high schools (ZPHS). Students from these schools are competing with private school students all the time. However, due to the introduction of digital classrooms in 195 schools, including 22 primary, 12 upper primary and 162 ZPHS, students may find it a little easier to catch up on their academics. There are a total of 3,173 schools in the district.

This initiative by the government has increased the learning capabilities of slow learners, as it is through audiovisual media. Added to this, to increase digital literacy, about 104 primary schools were provided computers with the support of the Sarva Shiksha Abhiyan. The SSA provided digital classrooms in another 38 primary schools which are getting a good response from the students.

According to the education officers, Krishna district topped in the installation of digital classrooms among others in the state.

District collector B. Lakshmikantham ordered the department to provide digital classrooms to all the ZPHS in the district by the end of October. DEO K. Rajya Lakhmi instructed the nodal officer and the school heads to contact the community to provide the digital classrooms for the students.

The special classes, would be taken up by experts in different subjects from cloud-based studio. It has been set up at ZPHS in Penamaluru village of Krishna district by the state government.

Speaking to *Deccan Chronicle*, Krishna district digital classroom nodal officer, D.V. Sreemannarayana said that enrolment ratio in all government schools had increased and the dropout rate of school children in government schools had reduced due to the digital classrooms.

ZP Girls HS headmaster K. Padma said that the digital classrooms were more helpful to the teacher to explain the subject.

File photo of a digital classroom at a government school in Vijayawada. — DC

Awards Achieved

Skoch Award

DIKSHA

CSI-Nihilent Award

Personalized Adaptive Learning

Andhra Pradesh is one of the pioneer states to implement Personalised and Adaptive Learning (PAL) for

students to address the learning diversity, speed and style of individual students through Edtech

Key Objectives:

1. Procure requisite hardware to operationalize PAL in 2900+ schools
2. Empanel PAL software solution providers through a rigorous evaluation process
3. Create high quality iterative program design for PAL adoption in schools
4. Set up processes and structures to monitor PAL usage

Scope of Project

Phase I (900 schools)

- 300 schools
- Tablet model
- Budget: 3.3L/school
- 600 schools
- Laptop model
- Budget: 6.7L/school

Phase II (2,080 schools)

- 715 schools
- Tablet model
- Budget: 3.3L/school
- 1,365 schools
- Laptop model
- Budget: 6.7L/school

Features of PAL

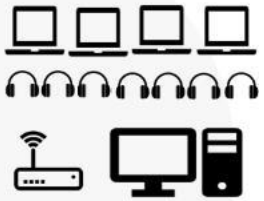
Adaptive

Predictive analysis

Experiential

Based on student responses

Dynamic content generation



Components

- Laptops/Tablets
- Headphones
- Server with Desktop
- Router
- PAL Software
- Electricity
- Internet, and
- Field management staff (1 for 6 schools)

Way forward

- All teachers of A.P should be trained as technology enabled in achieving the Learning outcomes of the students.
- Filing up of gap between no tech and high tech students in achieving learning outcomes.
- Scaling up of ICT Curriculum from primary to +2 Level.
- Providing ample scope of technology in teacher education.
- Establishment of Educational T.V. channel.
- Integration of tech based monitoring and administrative initiative.
- Development of A.I based courses to equip students to conquer global opportunities.

Thank You