SOLAR POWERED DIGITAL EDUCATION PROGRAM - e-Shala

CONCEPT & APPROACH

BY

SELCO SOLAR LIGHT PRIVATE LIMITED

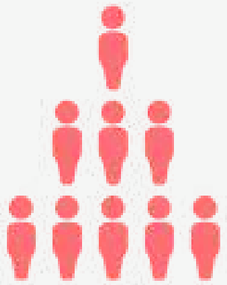
CONTEXT

Education has become more vital than ever before in determining how people and local communities prosper in today's global economy. India is undergoing changes that make it much more difficult to thrive without the skills and tools that a good quality education provides. In addition it has fueled ambitions for economic advancement among people and in turn expectations from schools as a medium to help them to achieve it. In this context it is important to ensure the quality of infrastructure in the rural schools which will create a congenial environment for learning and also help in reducing dropouts. Infrastructural deficiencies in rural schools is a major concern. These deficiencies have turned out to be a huge deterrent for children to feel encouraged to attend schools. Access to reliable electricity is one such big deficiency and has created a huge gap in the quality of education between the urban and rural areas. In this context access to modern energy services can be a critical enabler for children to pursue their education in schools. Clean and sustainable energy can power basic lighting and digital tools which make content more meaningful through advanced digital teaching techniques.

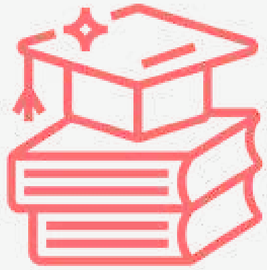
e-Shala System in Vijayapur

CHALLENGES OF EDUCATION IN RURAL SCHOOLS

Lack of Infrastructure



Shortage of Teachers



Quality of Education

Language Barrier

Socio-economic Factors

Access to Technology

Lack of Awareness

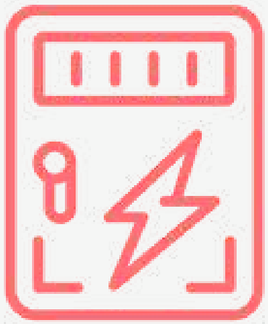
SOLAR POWERED DIGITAL EDUCATION PROGRAM

In addition the challenges mentioned, access to energy is a critical barrier which has been preventing rural schools from taking up new teaching technologies

To overcome this barrier, use of renewable energy is a suitable solution.

“Solar powered smart classroom - eShala” is one such program which aims to provide a holistic solution to improve the quality of classroom education and increase learning effectiveness by implementing digital educational content and digital tools powered by solar energy

SELCO in partnership with Menda Foundation & other funders have implemeted the program in more than 4000 schools of rural parts of Karnataka



Access to Energy

KEY STAKEHOLDERS

FUNDING AGENCIES

MENDA FOUNDATION

TEACHERS

STUDENTS

GOVERNMENT OF KARNATAKA

EDUCATIONAL DEPARTMENTS

COMMUNITY

SELCO

SELCO SOLAR LIGHT PVT LTD

e-Shala System in Bellary and Anantapur

IDENTIFICATION OF SCHOOLS

Identification of the school will be done through the consultation of local Block Education Officer(BEO) and Deputy Director of Public Instruction(DDPI).

The below factors will be considered for the school selection

- **Location**: Schools are to be typically situated in villages and small towns rather than major urban centers which serve the population residing in these rural areas.
- **Infrastructure**: Compared to urban schools, rural schools are to be chosen due to the lack of basic infrastructure
- **Student Strength**: Schools will be selected based on the total number of students studying and also maximum impact that can be created on the students lives
- **Teachers**: Schools are selected based on the response got from the teachers regarding the use of the digital content in the initial site survey conducted
- **Community Involvement**: Schools are selected based on the close-knit relationship with the local community. Parent-teacher interactions and community involvement in school affairs will be more prominent for the usage of the content

PROJECT APPROACH

STEP 01

Identification

All the schools part of the project have been selected based on the needs.

STEP 02

Site Survey

Site survey has been carried out in all of the identified sites to collect basic details of the school like number of students in the school and suitability of each center to execute the project.

STEP 03

Installation

The e-Shala systems are installed in the selected sites following all protocols and ensuring high quality installation.

STEP 04

Service

On time service and maintenance of the system.

STEP 05

Training

Post installation one day training for the School teachers have been completed.

e-Shala Systems installed in the rural schools

FEATURES OF THE E-SHALA SOLUTION

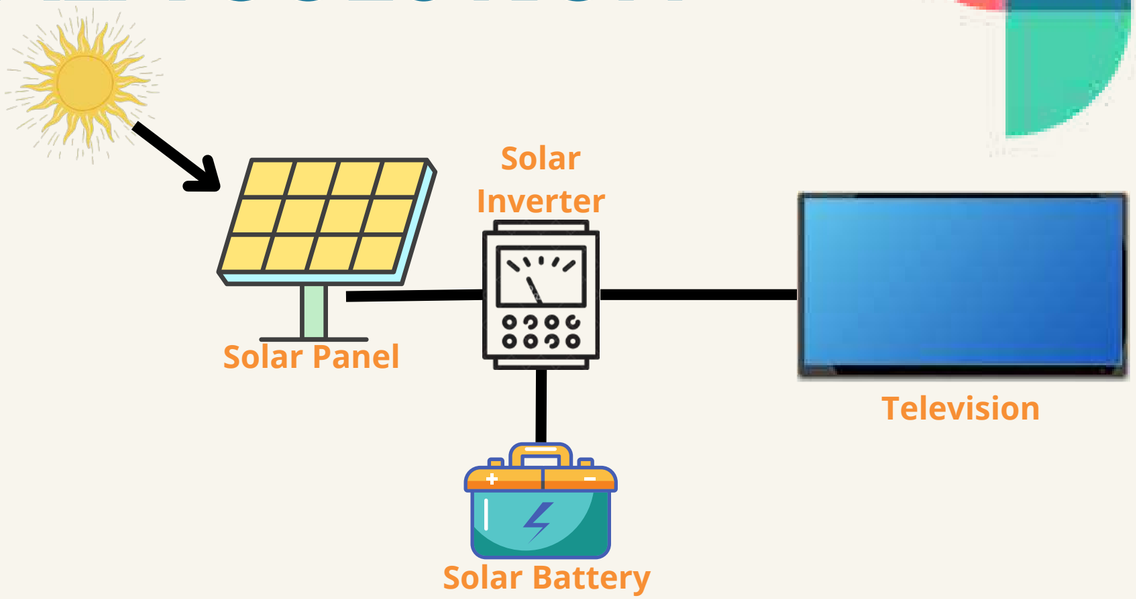
SOLAR SYSTEM DETAILS & WORKING

Solar Panel
200W

Solar Battery
200Ah

Solar Inverter
900Va

LED TV
50 Inch



When the sun shines onto a solar panel, energy from the sunlight is absorbed by the PV cells in the panel. This energy creates electrical charges that move in response to an internal electrical field in the cell, causing electricity to flow. The solar power is sent to the inverter. The inverter sends energy to the School by converting it to electrical energy. The energy got from the inverter can be used to power the domestic loads in the school such as Lights, Fans and Television. The extra energy that the School does not use, goes to the battery for storage and can be used when the solar panels are not producing energy.

FEATURES OF THE E-SHALA SOLUTION

FEATURES OF THE CONTENT

Next Education have been the content partner for all the schools implemented.

TeachNext, which is a content developed by Next Education for classroom teaching has been used in the program

Appropriate content for all learners

TeachNext contains learning modules of various styles which assist schools in following the pedagogy of their choice.

TeachNext modules use traditional 2D and 3D animations as well as more contemporary ones like claymation or papercraft animation.

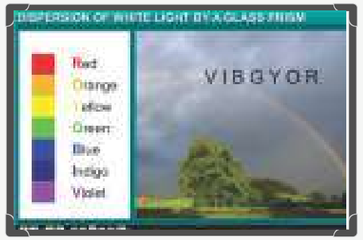
2D/3D Animation

Parameters	Features
Grades	Pre Kindergarden to 12th
Medium of Instruction	English & Kannada/Telugu
Subjects Covered	Mathematics, Science, Social Science, English Grammar, Kannada Grammar, Telugu Grammar
Internet Connection?	Works Offline
Extra Subjects Covered	Computer Knowledge, Sanskrit, Physical Education, Yoga, Lifeskills, Spoken English Course
Videos/Pictures	More than 1 Lakh pre installed images, 1000+ Science Experiments

FEATURES OF THE NEXT EDUCATION CONTENT

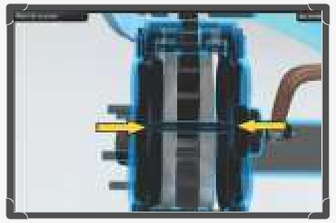
TeachNext modules blend real-life videos with interactive animations to appeal to the inquiring mind of a child

Real-life Videos



Hands-on Learning

Interactive Simulations



FEATURES OF THE NEXT EDUCATION CONTENT

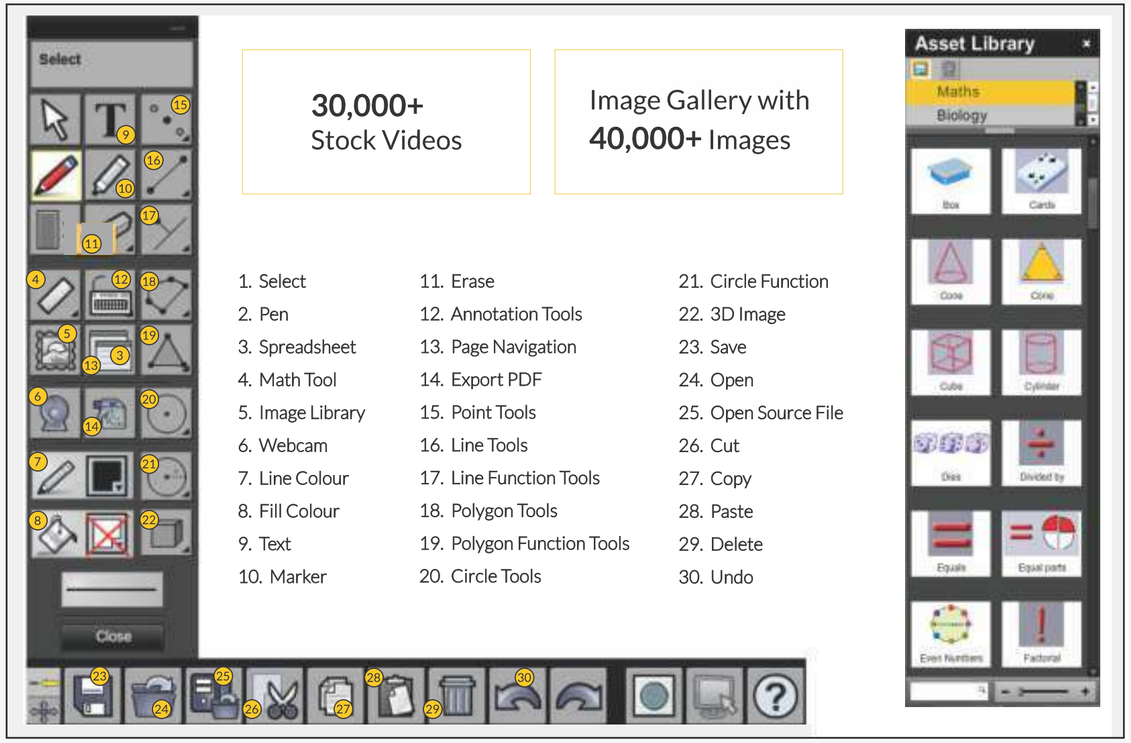
Integrated Tools

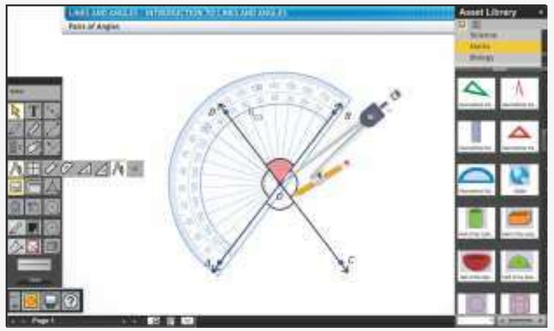
Quality content integrated with the right technology creates magic

Next Education has developed 50+ tools to create an interactive learning environment in the class, hand-in-hand with innovative learning videos and adaptive assessments.

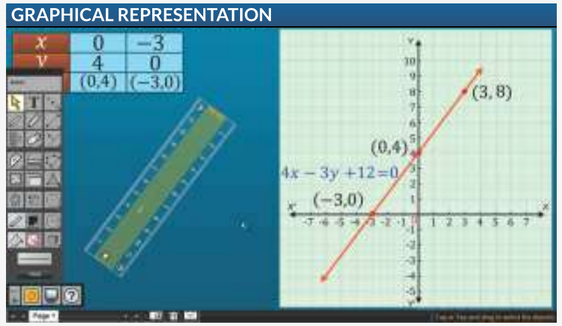
Next Studio™

The only industry too that is perfectly integrated with digital content – NextStudio promotes interactivity like no other.





Lines and Angles

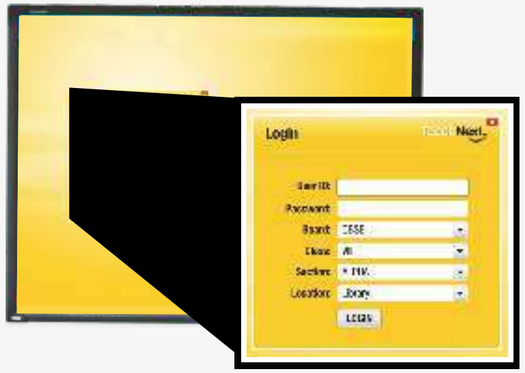


Graphical Representation

Easy-to-use Interface

A simple navigation process makes TeachNext easy to embrace.
Content comes alive with a few clicks

1. Select Board



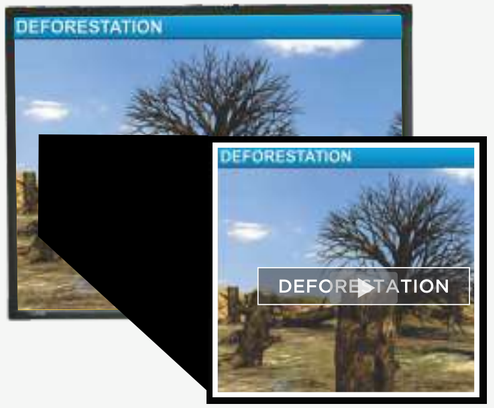
2. Select Class

5. Select Module

4. Select Chapter

3. Select Subject

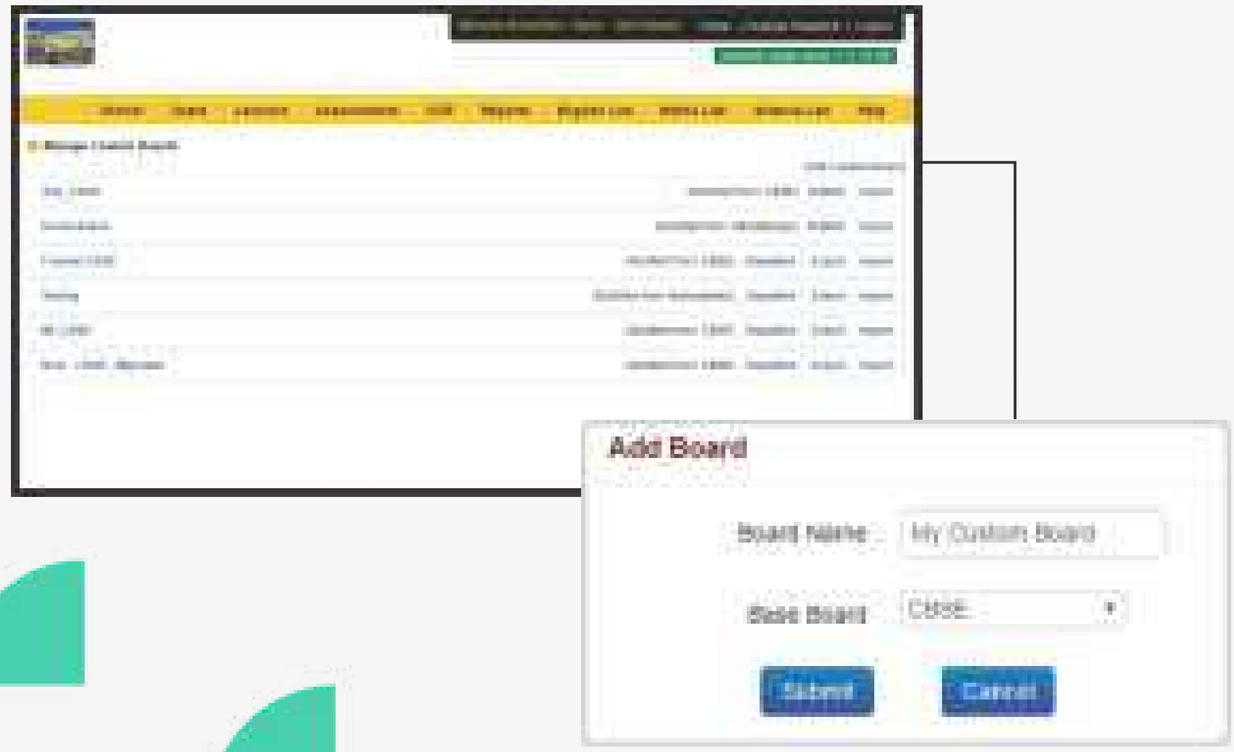
6. Play



Map content to create a custom board

Easily create your own board in addition to the pre-existing 30+ boards

Manage Custom Boards



Easy to track usage

CONTENT USAGE TRAINING

As per the project, all the teachers will be trained regarding the usage of the next education content. All the trainings will be conducted clusterwise and done by a experienced person from Next Education.
The trainings will be completed by clustering the schools and bringing the teachers at a common place.
The teachers will be trained on

- Usage of the content
- Equipping the teachers with the tools and techniques to use digital resources

Teachers Training at Vijayapur schools

INTENDED OUTCOME

Enhanced Learning Experience: Smart classrooms offer multimedia-rich content, including interactive videos, animations, and simulations, which make learning more engaging and interactive.

Access to Quality Education: Smart classrooms provide students in rural areas with access to quality education resources that may not have been readily available before.

Bridging the Urban-Rural Divide: By implementing digital teaching methods, students in rural India can have access to the same quality of education as their urban counterparts.

Teacher Empowerment: Smart classrooms not only benefit students but also empower teachers. Teachers can utilize digital resources to enhance their teaching methods, deliver lessons more effectively, and monitor student progress.

Technological Skills Development: Introducing smart classrooms in rural areas exposes students to technology at an early stage, fostering the development of digital literacy and technological skills.

Increased Student Engagement: The interactive nature of smart classrooms encourages active participation and engagement among students.

TESTIMONIALS FROM TEACHERS

"Students are gaining insights from the digital content and their eagerness to learn has increased. Although there are power outages in the rural areas, the solar powered e-Shala system is proving to be helpful. Teachers are taking full advantage of the system."

-Prakash, HM, Govt High School Antharasanthe, Mysore

"The e-Shala program has changed several things, including the way that teachers now have simple access to all the teaching resources needed to explain any given chapter, including diagrams, maps, and even films. Particularly for subjects like science, 3D content aids pupils in better visualizing and comprehending concepts. Additionally, it fosters their inventiveness and originality. It is a blessing for learners who take their time.. The Things which were theoretical in past, have now become practical. The teachers have all the teaching aids inside the classroom itself."

-Satyanarayan, HM, Government Higher Primary School Ullur, Bellary

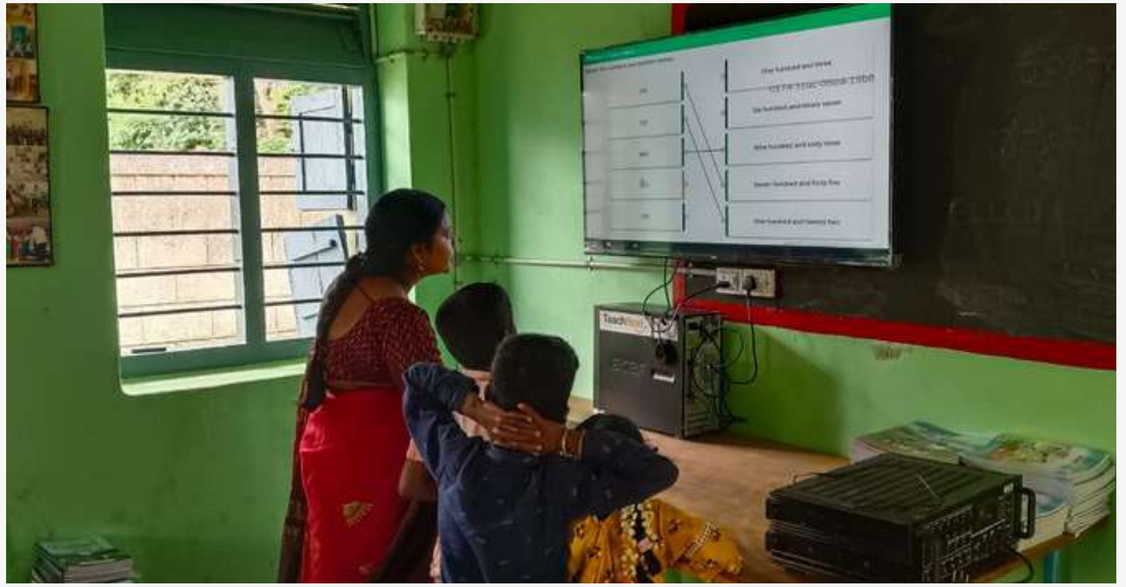
"With the help of this audio-visual aid, many ideas that were challenging to teach with just words have been graphically illustrated, such as how the human digestive system and bodily structure may be simply demonstrated on television. Students may now comprehend topics with ease and retain them for an extended period of time. Since the e-Shala system was installed, the students' academic performance has significantly improved."

-Shyrashyad, HM, KBHPS No 3, Shivaji Circle, Vijayapur

"I am really happy and appreciative that SELCO and its team have come up with such an intervention. It was challenging for us teachers to get the children to understand a few concepts. However, because to technology, they are now able to visualize everything more clearly, which has made our work easier and allowed us to learn a lot as well. We receive service and support right away from Mr. Dattaram Bhatt from the Kumta SELCO team, and we are eternally grateful to him."

-Udayanaik, Government Higher Primary School, Chitrgi, Kumta

PROJECT PHOTOS



e-Shala System in Puttur

e-Shala System in Mysore and Vijayapur

e-Shala System in Sulia

e-Shala System in Haveri