ABOUT CLIx

The **Connected Learning Initiative (CLIx)** is a technology enabled initiative at scale for high school students. The initiative was seeded by Tata Trusts, Mumbai and is led by Tata Institute of Social Sciences, Mumbai and Massachusetts Institute of Technology, Cambridge, MA USA. CLIx offers a scalable and sustainable model of open education, to meet the educational needs of students and teachers. The initiative has won UNESCO's prestigious 2017 King Hamad Bin Isa Al-Khalifa Prize, for the Use of Information and Communication Technology (ICT) in the field of Education.

CLIx incorporates thoughtful pedagogical design and leverages contemporary technology and online capabilities. Resources for students are in the areas of Mathematics, Sciences, Communicative English and Digital Literacy, designed to be interactive, foster collaboration and integrate values and 21st century skills. These are being offered to students of government secondary schools in Chhattisgarh, Mizoram, Rajasthan and Telangana in their regional languages and also released as Open Educational Resources (OERs).

Teacher Professional Development is available through professional communities of practice and the blended Post Graduate Certificate in Reflective Teaching with ICT. Through research and collaborations, CLIx seeks to nurture a vibrant ecosystem of partnerships and innovation to improve schooling for underserved communities.

CLIx LEARNING DIMENSIONS

THREE DOMAINS: Maths, Science, English

Integrating values & 21st century life skills

Two GRADES: VIII, IX

THREE LANGUAGES: Hindi, Telugu, English

DELIVERED THROUGH: Teachers, Devices, CLIx Platform

ACHIEVED THROUGH: Real world projects; Online text, audio & video; Interactive edu tech apps; Hands-on activities & labs; Discussion & comm-unity-bui-lding

CLIx PARTNERSHIPS

Tata Trusts initiated the idea of building and implementing at scale, a technology enabled learning intervention for the Indian rural high school students. The Trusts' then invited MIT and TISS to build and design this programme in partnership with a wide ranging group of organisations that brought in rich and varied experiences towards implementing this unique initiative.

SEEDED BY
- Tata Trusts

LED BY
- Tata Institute of Social Sciences
- Massachusetts Institute of Technology

GOVERNMENT PARTNERS
- Govt of Chhattisgarh
- Govt of Mizoram
- Govt of Rajasthan
- Govt of Telangana

DEVELOPMENT AND IMPLEMENTATION PARTNERS
- Centre for Education Research & Practice, Jaipur
- Department of Education, Mizoram University, Aizawl
- Eklavya, Bhopal
- Homi Bhabha Centre for Science Education, TIFR, Mumbai
- National Institute of Advanced Studies, Bengaluru
- State Council of Educational Research and Training (SCERT) of Telangana, Hyderabad
- Tata Class Edge, Mumbai
- Inter - University Centre for Astronomy and Astrophysics, Pune
- State Council of Educational Research and Training (SCERT) of Chattisgarh

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CLIx
CONNECTED LEARNING INITIATIVE
www.clix.tiss.edu

An initiative seeded by TATA TRUSTS

Led by TISS (RE-IMAGINING FUTURES) and Massachusetts Institute of Technology

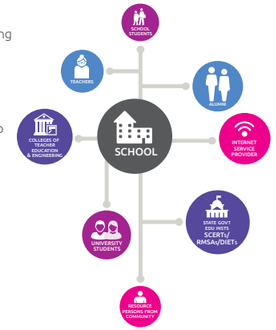
*Winner of the 2017 UNESCO - King Hamad Bin Isa Al-Khalifa prize for **Use of ICTs in Education***

IMPLEMENTATION AT SCALE

1 SCHOOL READINESS - ICT @ SCHOOL LABS
- School computer and science lab infrastructure mapping
- Purchase, procurement and installations
- Lab readiness sign offs

2 CURRICULAR ADAPTATION & LOCALIZATION
- Review and engagement with SCERT curriculum group
- Student modules integration into state textbooks

3 TEACHER EDUCATION PREPARATION
- Subject wise teacher educators group
- Induction and orientation of teacher educators on academic mentoring
- Lab readiness sign offs



4 INSET for TEACHERS
- Registration and Launch of certification programme for teachers courses: (A)Foundation (B) Subject (C) Electives
- Support teachers for device and data plans

5 SCHOOL LEVEL PLANING/PREPARATIONS
- Head teachers' orientation
- Timetabling and batching
- Installation of CLIx modules in schools

6 COMMUNITY OF PRACTICE
- Academic support for teachers
- Continuous tech enabled interactions with experts and peers

7 IMPLEMENTATION
- Module Implementation by teachers for students
  - DIGITAL LITERACY
  - ENGLISH
  - MATH
  - SCIENCE

8 ASSESSMENT, MONITORING & EVALUATION
- Assessment of learning outcomes – research
- Regular school visits
- technical support
- Lab maintenance
- Monitoring, report cards

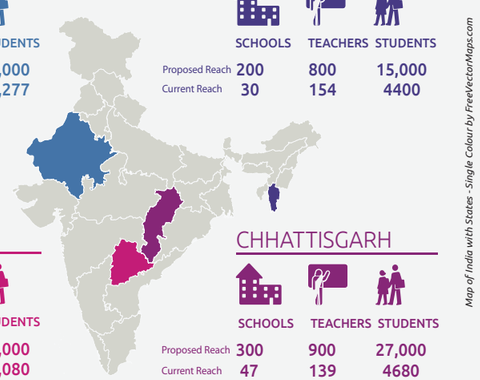
CLIx LOCATIONS

RAJASTHAN

	SCHOOLS	TEACHERS	STUDENTS
Proposed Reach	300	1,000	33,000
Current Reach	101	248	13,277

MIZORAM

	SCHOOLS	TEACHERS	STUDENTS
Proposed Reach	200	800	15,000
Current Reach	30	154	4400



Map of India with States - Single Colour by FreeVectorMaps.com

TELANGANA

	SCHOOLS	TEACHERS	STUDENTS
Proposed Reach	300	2,010	36,000
Current Reach	300	1,853	10,080

CHHATTISGARH

	SCHOOLS	TEACHERS	STUDENTS
Proposed Reach	300	900	27,000
Current Reach	47	139	4680

* As on March 2018

THE IMPACT OF CLIx

STUDENTS
Learning outcomes
- Proficiency in Communicative English
- Improved conceptual skills and proficiency in Science, Technology and Mathematics
- Digital literacy and 21st century skills
- Ethical values and life skills
- Widened career horizons

TEACHERS
Professional development
- Integration of ICTs into curriculum and teaching
- Participation in certified courses for Maths, Science, Communicative English and Digital Literacy
- Improved subject knowledge in Science and Mathematics
- Improved proficiency in English
- Improved classroom processes
- Participation in Community of Practice of teachers

SCHOOLS
Systemic enhancement
- Active use of Science labs
- Technology-enabled education in all subjects
- Strengthened competencies of high-school students
- Capacity building at local and state level
- Development of a local ecosystem of connected learning
- Improved access to ICT infrastructure in schools

CLIx RESEARCH

Research is an integral component of CLIx, integrated into the multiple streams of ongoing activities. While it looks at impact, it also seeks to find answers to questions about student learning, curriculum development, teacher professional development, how innovations can become sustainable and how technology can create impact on scale. The following studies are being conducted at CLIx:

- Chhattisgarh, Mizoram, Rajasthan and Telangana: Baseline study and impact evaluation :
- Innovation Diffusion Process: A case study of Connected Learning Initiative
- Impact of technology enabled language learning in English Fluency, Listening and speaking skills through a technology enabled language learning programme facilitates fluency in English
- Self-reflexivity, peer learning & autonomy promoted in a technology-enabled language learning.
- Teacher motivation and attitudes towards technology - enabled learning
- Split classes in large student sized schools: A case study of two schools in Dhamtari
- Students' Geometric Reasoning: A comparison of blended versus non-blended pedagogies
- Status of Science labs and their utilization in CLIx schools
- Communities of Practice in Teacher Professional Development : formation, sustenance and best practices

CLIx OFFERINGS

STUDENTS

Invitation to CLIx
Designed to give an experience of connected and digital learning
- Introduction and Indic typing
- Analyzing with Spreadsheets
- Drawing with Inkscape
- Organising with Mindmaps

Communicative English
Learning listening and speaking skills through computer assisted and hands-on tasks based on communicative language pedagogy.
- English Beginner: 11 weeks, 22 periods
- English Elementary: 11 weeks, 22 periods

Mathematics
Simulations and games to facilitate mathematical thinking and communication.
- Geometric Reasoning 1: 3 weeks, 12 periods in 8th grade
- Geometric Reasoning 2: 3 weeks, 12 periods in 9th grade
- Proportional Reasoning: 3 weeks, 12 periods
- Linear Equations: 3 weeks, 12 periods

Science
Collaborative activities built around digital tools and hands-on experimentation to learn biology, chemistry and physics.
- Motion: 5 weeks, 20 periods
- Sound: 4 weeks, 16 periods
- Astronomy: 3 weeks, 12 periods
- Atomic Structure: 4 weeks, 16 periods
- Health and Disease: 4 weeks, 16 periods
- Ecosystem: 2.5 weeks, 10 periods

Value Education & Life Skills
(Under Development)
- Story based approach introduces students to key personal, social and professional values.
- Value education embedded into the curriculum and pedagogy of teaching values

TEACHERS

The Postgraduate Certificate (PGC) - Reflective Teaching in ICT (RTICT) - is designed as an in-service programme for teachers in the elementary (upper primary) and secondary school levels. This is a modular table for the credit-based programme.

	Course	Credits
	ICT in Education	4
Specialisation course (Any one)	English Language Teaching	4
	Reflective Mathematics Teaching	4
	Interactive Science Teaching	4
	Action Research/ Digital Portfolio	3
Elective course	Values Development in Adolescents	2
	Media in the Classroom	2
	Hands-on learning through toy-making	2
Total		17

The blended programme is practice -based. Teachers will learn through face-to-face workshops, online courses, mobile-based Communities of Practice, and implementation of student modules.

CLIx PEDAGOGIC PILLARS