# CLIx for Students

The resources for the students' modules have been developed through a Design-Based Research (DBR) approach, comprising multiple iterations in design and content that are derived from field observations. The student modules include several *critical innovative uses of technology*, to create interactive, media-rich experiences and authentic hands-on learning opportunities that can enable students to be creators and not mere consumers of content. This is a paradigmatic shift from trends in which technology is deployed to either teacher-proof curricula, or micro-manage teachers. The modules use a combination of digital and non-digital tools and low cost, locally available materials for lab activities. The topics of the modules are mapped to the state curriculum and selected based on hard-spots. Relevant research literature relating to the topics were drawn upon. Feedback was sought from teacher educators and subject experts from state governments before the contents were authored and reviewed multiple times for Quality Assurance. ICT has been used to enhance learning and make it an active process through interactives, games, simulations, and tools. This is supported by feedback from teachers in real-time. Each subject module in CLIx for students - Digital Literacy, English, Mathematics, Science and Values - adapts domain-specific pedagogies to these pedagogical pillars to help students become critical thinkers and creators of knowledge. The pillars have also guided the design of technology tools, interactives, and the implementation process to ensure a rich learning experience for students and teachers alike.

## The CLIx Pillars



*Figure 3: Pedagogical Pillars of CLIx*

**Creating an authentic learning context**

**Creating collaborative learning spaces**

**Creating safe spaces to learn from mistakes**

The pedagogical principle involved in these module involve approach to constructing an ethos for group learning through access to and interaction within peer group and with expert groups, but there is ample sophisticated consideration for pedagogies for paced learning, individualized support, and development, where teachers can use these modules in a nonlinear way to address the diverse need of learners. This pedagogical approach enhances opportunities for hands-on learning and experimentation, new pedagogical affordances for investigation, inquiry, and reflection, revision and assessment, and enables access to knowledge, content and experts and communities of peers and practitioners.

Following is the list of modules that are being used:

- **Introduction to CLIx:** Indic Typing, Spreadsheet, Inkscape, Mind Maps and Geogebra. (4 modules x 2 weeks/8 periods each)
- **Mathematics:**  Geometric Reasoning 1&2 (2 modules x3 weeks/12 periods), Proportional Reasoning (3 weeks/12 periods)  and Linear Equations (3 weeks/12 periods).
- **Communicative English:** English Beginner (11 weeks/22 periods) and English Elementary (11 weeks/22 periods)
- **Science:**  Motion (5 weeks/20 periods), Sound (4 weeks/16 periods), Astronomy (3 weeks/12 periods), Health and Disease (4 weeks/16 periods), Atomic Structure (4 weeks/16 periods) and Ecosystems (2.5weeks/10 periods).

**Note** - Each module includes several interactive digital tools and hands-on and collaborative work by students. Each module includes pre- & post-assessment. Please refer here Annexure 1 for more details on the student modules.

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