

# Connected learning in disconnected spaces: the CLix' experience of designing learning technologies that work for all

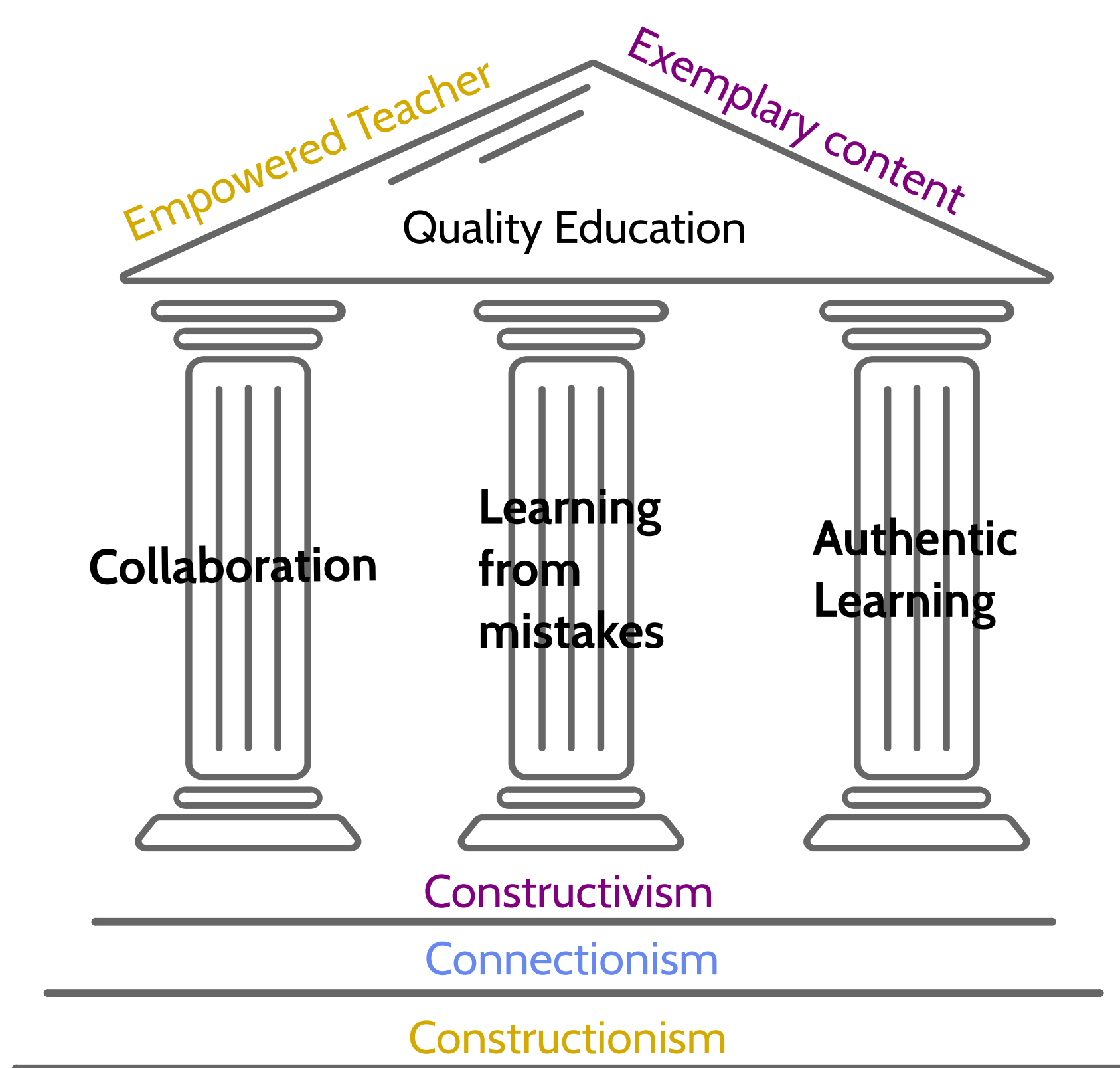
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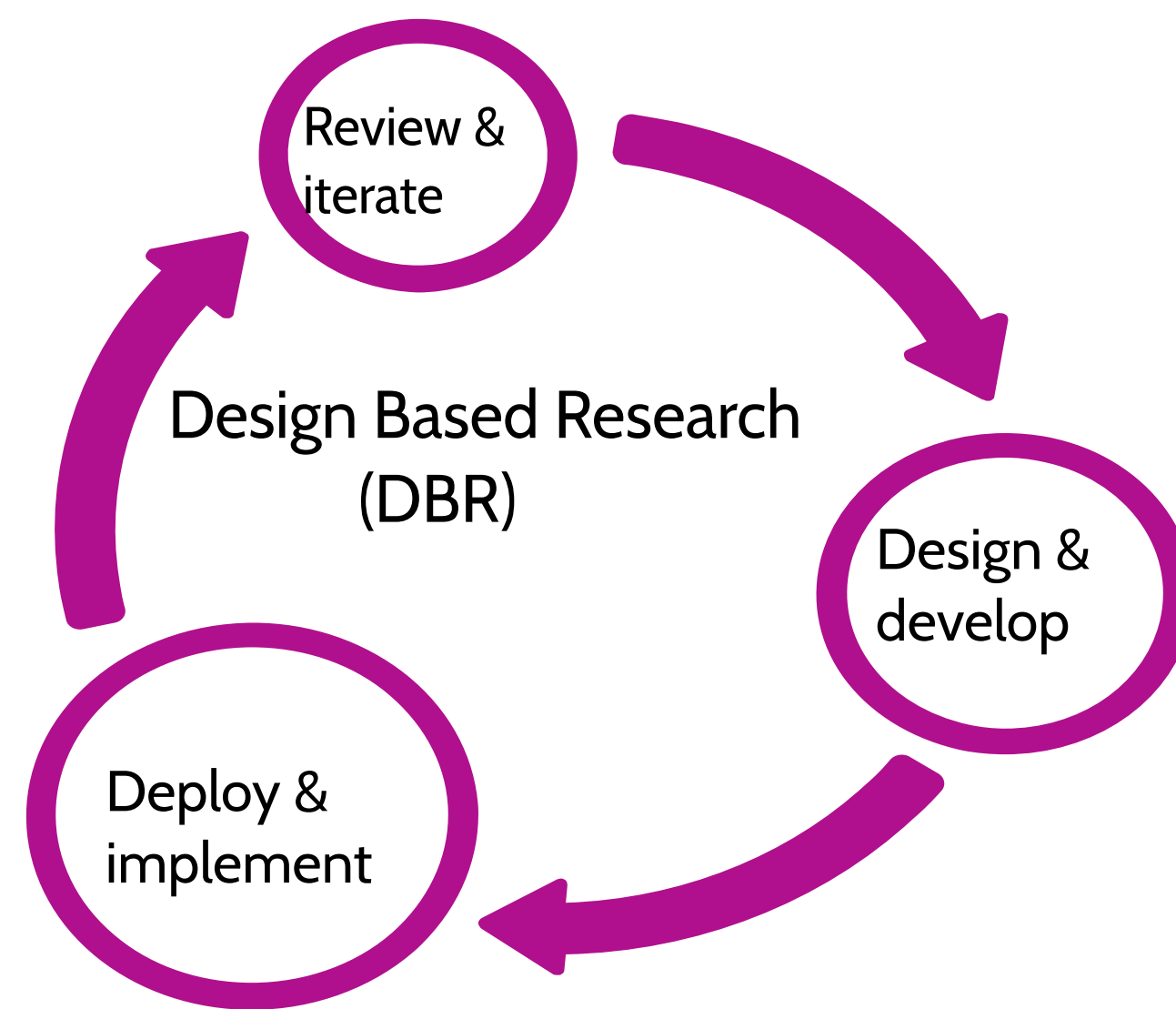
**Abstract:** In this presentation, drawing upon our experiences from a large scale technology enabled educational intervention - Connected Learning Initiative (CLix) - in India, we propound two arguments: first, pedagogic underpinnings of educational technologies play critical role in developing effective learning solutions; second, design considerations of technology architecture play vital role in creating transformative EdTech solutions.

Aproposing the arguments, we share the experiments and lessons learned from the design, development and deployment of gStudio powered CLixPlatform - a Next Generation Digital Learning Environment (NGDLE) for school students and teachers. We would also demonstrate and discuss how thoughtfully designed open standards compliant, digital learning system architecture is engendering innovations for connected learning in disconnected space in the remote districts and underserved communities across India.

## 1. Pedagogic underpinnings shape the efficacy of EdTech solutions:

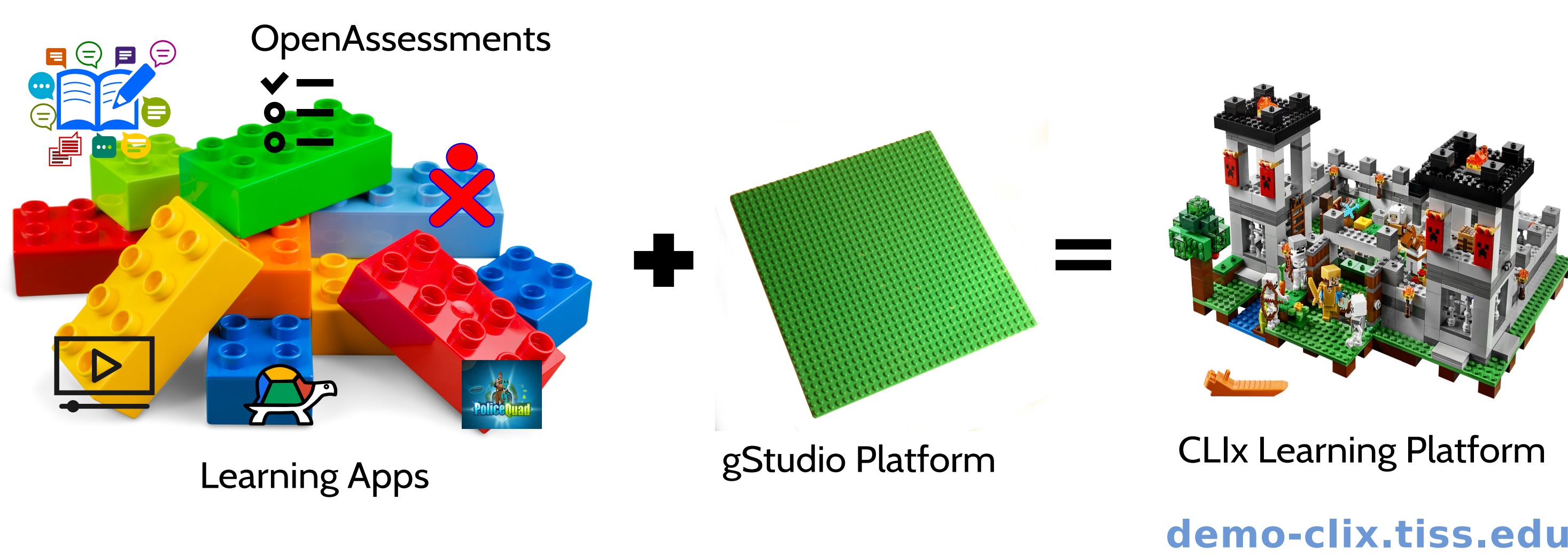


## 2. Design:

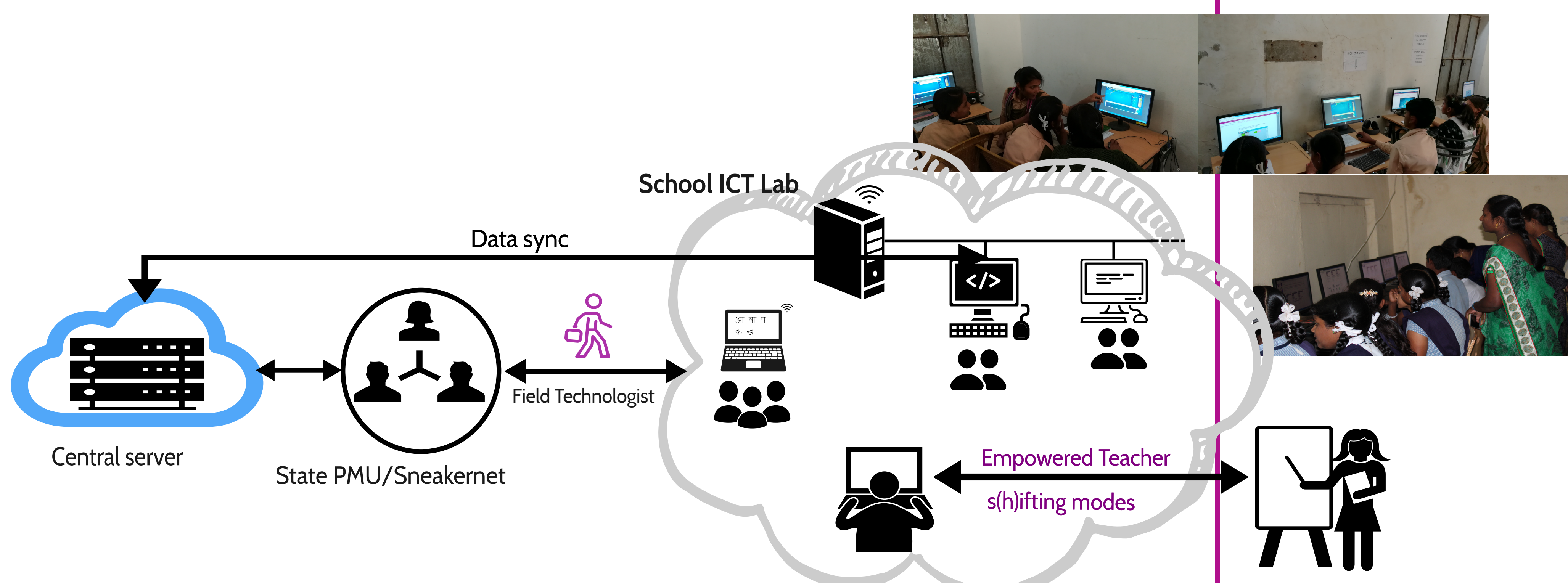


## 2. The "Lego" approach of designing learning technologies:

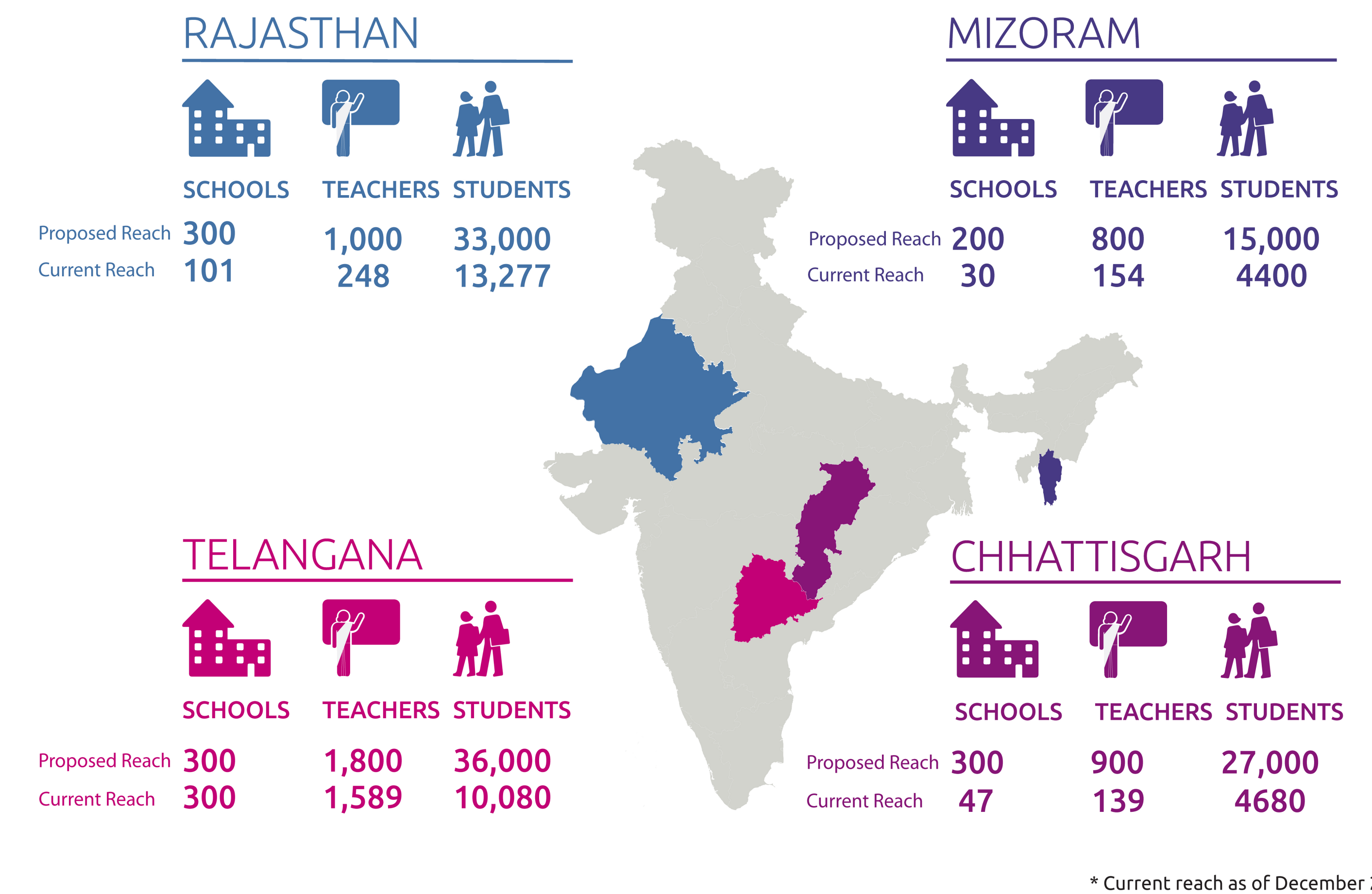
We integrated existing/external open-source apps and created a mashup model of Next Generation Digital Learning Environment (NGDLE). Therefore, although CLixPlatform may sound as a reinvention (yet another platform!) it is, however, not a "walled garden"<sup>1</sup>. It allows interoperability. By making it compliant with open-standards such as LTI, QTI, OSID, SCORM and API we are ensuring that the CLixPlatform become 100% interoperable with other open-standard compliant platforms.



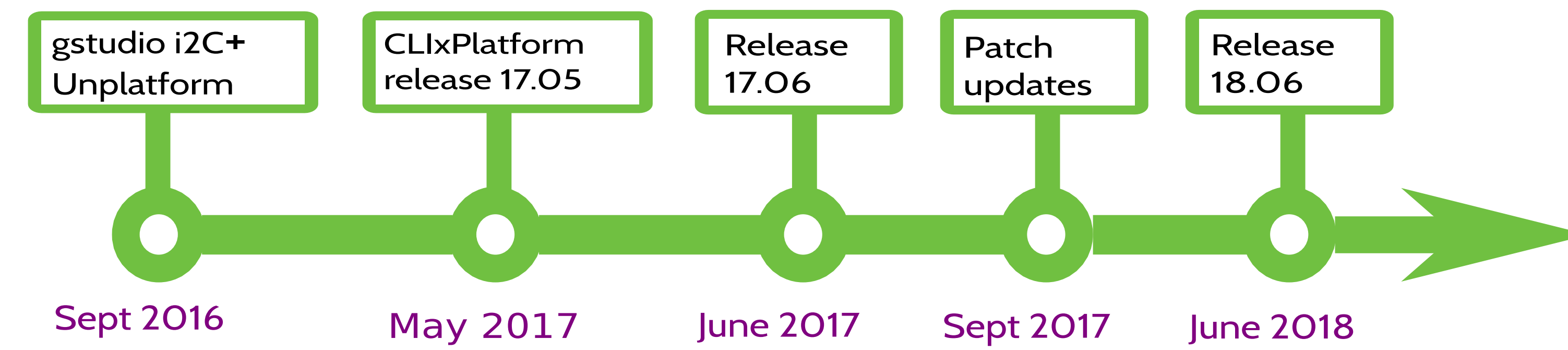
## 3. Implementing connected learning in school:



## 4. Goal: Quality at Scale!



## 5. Milestones:



## 6. Features:

1. Designed for collaborative and connected learning with interactivity: Gallery, e-Notes, Workspace, Apps, Buddy, Feedback, co-creation features.
2. A virtual maker-lab.
3. Buddy-login with concurrent user login on single computer for collaborative learning
4. Rugged, Robust, Versatile, Aggregator: CMS + LMS + OERrepository = LMX<sup>2</sup>
5. Open-source and open-standards compliant => interoperable.
6. Lego modelled design - integrate, embed, extend.
7. Supports internationalization and multilingualism.
8. Learning data and analytics.
9. Packaged as "internet-in-a-box"/DOER (Distributed Decentralized Offline OER).  
.: works online and offline.
10. Opportunistic use of internet for updating content and data collection.

## 7. Challenges:

1. Inadequate ICT infrastructure inhibits outcomes.
2. EdTech needs to take teachers along.
3. Designing learning solutions for diverse learners and learning contexts especially in resource constraint.
4. Making the design universal and accessible for all learners.
5. Learning from learning analytics.
6. Integrating ICTs in education is still a growing field and requires a pedagogical and policy shifts.

## 8. Proof of Concept(WIP):



Winner of UNESCO's  
2017 King Hamad Bin Isa Al-Khalifa Prize  
for the Use of Information and Communication  
Technology (ICT)  
in the field  
of  
Education



## References and Acknowledgement

1. Brown, M., Dehoney, J., & Millichap, N. (2015). The Next Generation Digital Learning Environment: A Report on Research. ELI Paper. Retrieved from <https://library.education.edu/-/media/files/library/2015/4/eli3035.pdf>  
 2. Merriam, J., Coppeto, T., Santanach, F., Shaw, C., & Aracil, X. (2016). Next Generation Learning Architecture. eLearn Center. Universitat Oberta de Catalunya. Retrieved from <http://hdl.handle.net/10609/47481>  
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