The Data Dividend for Network enabled Open Education

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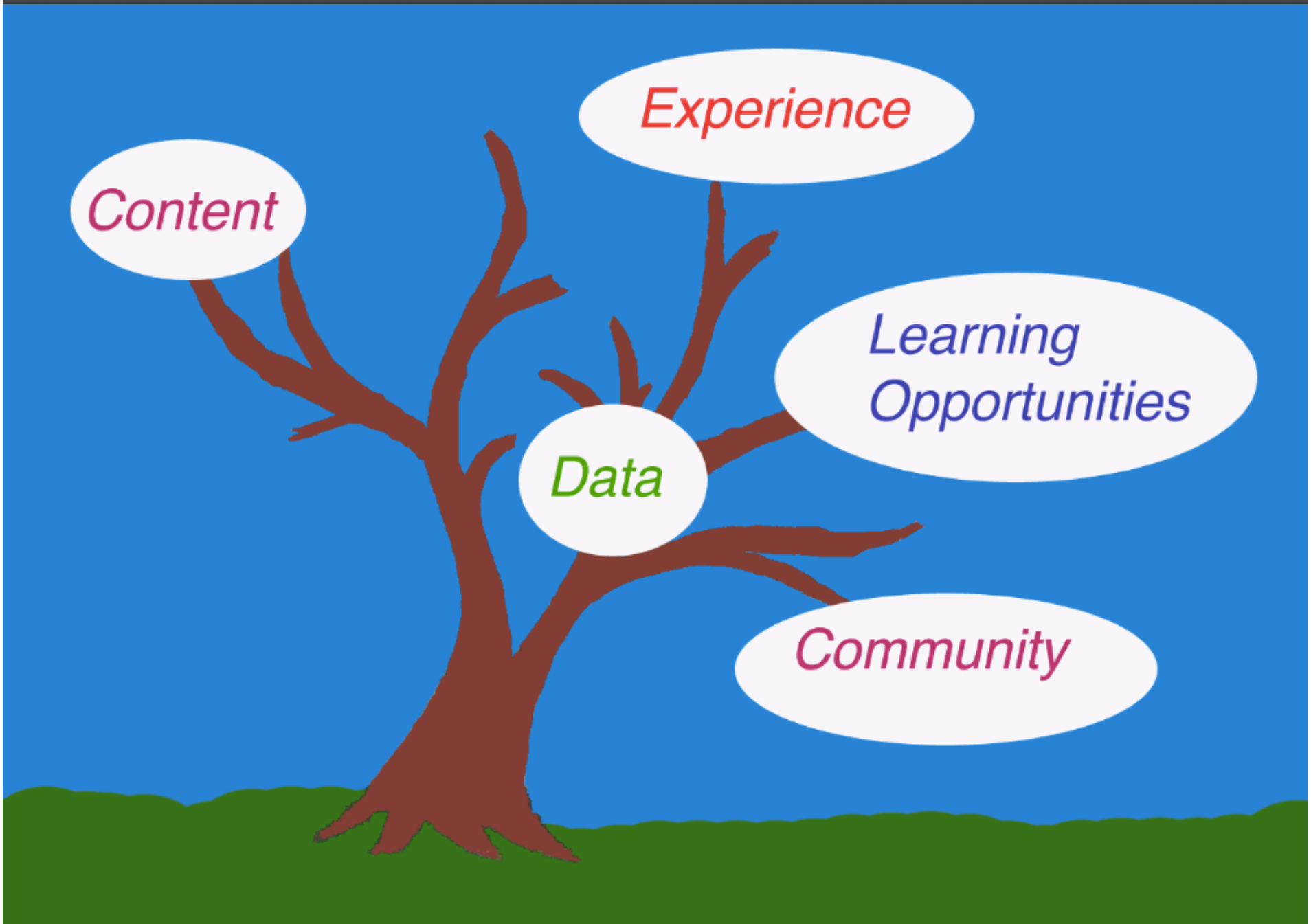
Big Data for Ed - Synthesis

- Systems/platforms, associated with scaffolding - PAR, STARFISH, Signals, Maroist Open Analytics, D@L.. --Interoperability and Standardization ; Privacy; MOOC affordances
- Student Centered Data
- Assessments/Evidence: continual ;relevant; invisible?(Val –FSU)
- New Data Opportunities and Unique Needs of Education (Ken, George, Perue Bhaskar…
- Strategies and mechanism at different levels: micro (mezo) and macro (national
- and global indicators) – (Edith Gummer)
- Making learning visible to the learner
- Job and Learning Outcomes

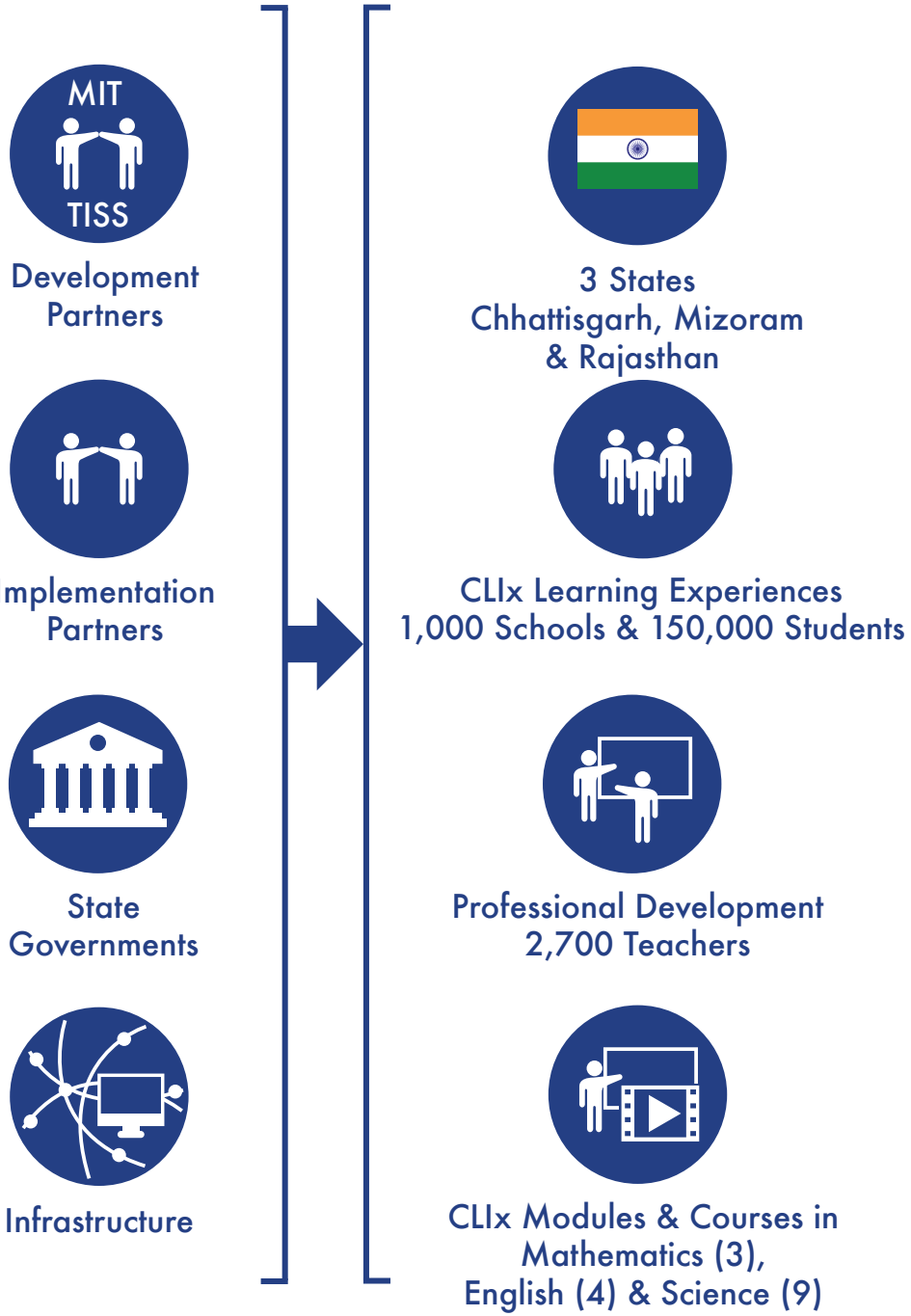
Network Enabled Open Education

Changing the Ecology and Economics of Education



CLIx Phase 1 - Scope

- In 2015-2017:
  3 States,
  1,000 schools,
  150,000 students, 2,700 teachers
- Mathematics, English, Science & Values
- Ecosystem of Partners, including State Governments, led by MIT and TISS



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Design Considerations

- Scale
  - Vector (Size + Diverse audiences; sources; technology)
  - Input
    - Requires Architectural consideration in Design
  - Assets Vs. Learnings/Models
- Open
  - Abundance
  - Generative:4Rs; Spawn Application and Innovation
    - Incldg New kinds of assessments; New Questions
  - New Structural Arrangements
    - Institute – Individual – Community

Current Pain Points/Opportunity Areas - Samples

- **Distributed, Embedded Assessment**
  - Repositories and Recommenders
- **Competency and Skill based Learning**
- **Strategic Scaffolding**

Assessment Banks and Recommenders

- **Scaling Problem:** Managing , sharing or supporting re-use of assessment items; Effectively mapping them to learning objectives
- **Digital Learning Assessment Bank**
  - A global federation of assessment tools for online assessments
  - A secure and interoperable Federated Assessment Service to create and update assessment offerings and perform assessment authorizing, reporting, learning objectives mapping and analytics
- **Recommenders**
  - Identification and selection of assessments from the digital learning assessment bank for use by course authors.
    - **Big Data capability can allow us to study the effectiveness of assessments drawn from these assessments banks for different learning outcomes/ in different**

Competency and Skill based Learning

Problem: Mapping between educational courses/ programs and job skills.

- Modeling educational goals related to course and programs

Learning objective cataloging systems (services to manage and map data on educational goals)

- Interoperability)

Semantic analysis.

- Starting with knowledge models, developed by domain experts, auto-generate learning outcomes from available data

Strategic Scaffolding

- Create automatic support and scaffolding strategies for a wide variety of " Network learners"
  - Help understand conditions under which successful learning occurs for diverse learners/contexts
    - interaction among students, pedagogy, curricular material, support networks **(Community)**
    - Help seeking behavior **(Community)**
    - Dynamic/Increasingly Complex

Enablers

- **Lower Threshold for providing and using data**
  - **Build in/Instrument Infrastructure and Process**
  - Tools and capabilities to Find, Get, Use
    - Interoperability
    - Making Tacit Knowledg visible and useful to others
- The commons must serve both as a repository and a seedbed. Create the conditions in which ever better ideas and models can come forward.