Educational opportunities for poorest Students through XOs
OLPC in Sri Lanka

- A pilot project introduced by MOE
- Introduced in
  - 9 provinces
  - 13 schools

“Not a computer. It’s an educational tool”
EMPOWERING ICT ADAPTATION IN PRIMARY EDUCATION OF SRI LANKA THROUGH OLPC

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Out Line

- Acronyms
- MOE preparations for OLPC
- Our Project Aim
- Goal
- Objectives
- Constraints
- Sampling Procedure
- Research Methodology
- Comparisons for survey
- Critical evaluation of OLPC
- Demonstration
Acronyms

OLPC – One Laptop Per Child
XO – The laptop given for the OLPC project
MOE – Ministry of Education
ISA – In Service Advisors
MOE preparations for OLPC

• Content Development
  • New Activities for each grade (According to the school syllabus)
  • Localization of activities
Sample Activity – Grade 04
Our Project Aim

• Evaluate how OLPC methodology has been practicing in Sri Lanka & propose constructive improvements

• Establishing a framework for OLPC based ICT adaptation in primary education in Sri Lanka
Goal

Proposing a framework for ICT adaptation based on the OLPC methodology in primary education of Sri Lanka, allowing all stakeholders to share their knowledge, skills & experience
Objectives

● Identifying the role of OLPC in the knowledge & the skill development of the students

● Measure the impact & effectiveness of OLPC in primary education

● Critically evaluate the OLPC pilot project in Sri Lanka for constructive suggestions
Objectives...

- **Grouping learning activities** of OLPC based on the primary students development

- Establishing a **interactive networked learning environment** for different learner groups
Constraints

**Conditions in the OLPC pilot project**
- Unclear plan of the pilot project
  - Changing Timeline
  - Approaches are not disclosed/clear

- External factors
  - Political situations
  - Practical problems

Affected negatively for planned activities
Of this evaluation project
Sampling Procedure

Sample Size 25%

Seelarathana Primary School - Gampaha

Mawaththegama Primary School - Thambuththegama

Kalogahaela Primary School - Dambulla
Research Methodology

Non OLPC School (A)

Primary Schools

OLPC Schools

Pre Distribution (B,C,D)

Post Distribution (B,C,D)

A-Kalawila Primary Kalawila

B-Mawaththegama Primary-Thambuththegama

C-Kalogahaela Primary-Dambulla

D-Seelarathna Primary Ganemulla
Comparisons

There are two comparisons

• Pre distribution survey

• Post distribution Survey
Parameters for Comparisons

- Participation in the classrooms
  - Interaction with students & teachers
    Techniques: Observations, Interviews

- Learning engagement
  - How actively student is doing the activities
  - Whether doing an active role or not
  - Doing homework
    Techniques: Observations, Giving Assignments, Interviews
Parameters for **Comparisons**...

- **Creativity / exploration**
  - Recording songs and playing it back
  - Drawings
  - New experiments

  *Techniques: Observations, Giving Assignments*

- **Skills**
  - Writing skills
  - Numerical skills
  - Art skills

  *Techniques: Term test results, Giving Assignments*
## Critical Evaluation of OLPC Pilot in Sri Lanka

<table>
<thead>
<tr>
<th>Limitations</th>
<th>Proposed Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Proper XO distribution</td>
<td>Introducing a proper distribution Policy</td>
</tr>
<tr>
<td></td>
<td>XO for every student and teacher</td>
</tr>
<tr>
<td></td>
<td>Additional XOs, chargers, batteries</td>
</tr>
</tbody>
</table>
## Critical Evaluation of OLPC Pilot in Sri Lanka

<table>
<thead>
<tr>
<th>Limitations</th>
<th>Proposed Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Teacher Training &amp; awareness of OLPC</td>
<td>• Regular training sessions</td>
</tr>
<tr>
<td></td>
<td>• Zonal training centers/camps</td>
</tr>
<tr>
<td></td>
<td>• Responsible teacher for OLPC</td>
</tr>
<tr>
<td></td>
<td>• Internal training process within the school</td>
</tr>
</tbody>
</table>
Critical Evaluation of OLPC Pilot in Sri Lanka

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<tr>
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<tbody>
<tr>
<td>• No proper management for guidance</td>
<td>• Introducing a management &amp; organizational structure</td>
</tr>
<tr>
<td></td>
<td>• Help Desk</td>
</tr>
</tbody>
</table>
## Critical Evaluation of OLPC Pilot in Sri Lanka

<table>
<thead>
<tr>
<th>Limitations</th>
<th>Proposed Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrating XO &amp; content to classroom</td>
<td>Introducing Curriculum pedagogy &amp; learning activities</td>
</tr>
<tr>
<td></td>
<td>Guide students to explore the activities</td>
</tr>
<tr>
<td></td>
<td>Use XO as a part of the lesson not a separate item</td>
</tr>
<tr>
<td></td>
<td>Activity categorization</td>
</tr>
</tbody>
</table>
## Critical Evaluation of OLPC Pilot in Sri Lanka

<table>
<thead>
<tr>
<th>Limitations</th>
<th>Proposed Solutions</th>
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<tbody>
<tr>
<td>• XO Technology – Hardware/Software issues</td>
<td>• XO manual</td>
</tr>
<tr>
<td>• Broken LCD panel, XOs, Chargers</td>
<td>• Facilitating reinstallation</td>
</tr>
<tr>
<td>• Icons are being erased</td>
<td>• Denying modifications to XO</td>
</tr>
<tr>
<td>• Power Issue</td>
<td>• Distribution and promotion of Solar Panel</td>
</tr>
<tr>
<td></td>
<td>• Introducing “XO charging racks”</td>
</tr>
</tbody>
</table>
Proposed Framework

- Model for XO distribution & usage
- Activity based integration
- Networked learning environment
  - OLPC learning community at school
    - For Students and teachers
  - OLPC virtual community in Sri Lanka
    - For all teachers, technical, teams and advisors
Model for XO distribution & usage

- Distributing Xos at year end
- Gift for December vacation

Grade 1
- Heavy Use

Grade 2/3/4

Grade 5
- Directing Attention towards the normal desktop
Model for XO distribution & usage

XO Usage

Tₙ – School terms of the year

Grades

T₁    T₂    T₃    T₁    T₂    T₃    T₁    T₂    T₃    T₁    T₂    T₃

Grade 1  Grade 2  Grade 3  Grade 4  Grade 5
Mentoring & facilitating Model

- **T₀**: Receiving XO
- **T₁**: After 2-3 months

Graph showing Student Interest over time (months) with two key points:

- **T₀**: Low student interest
- **T₁**: Facilitating point where interest starts to increase after 2-3 months
Activity based integration

- What is a learning activity?
- Collection of activities designed in XO to help student to improve their skills
  - Memarize Game
    - The game memorize is about finding matching pairs.
  - Pippy
    - Teaches Python programming by providing access to Python code samples and a fully interactive Python interpreter.
Activity Categorization

- Activities are not categorized based on students educational level
Activity Categorization Methodology

- Studied grade Syllabus (1 – 5)
- Followed Pigeon’s cognitive Theory
- Guidance from primary teachers, teaching advisors and in-service advisors (ISA)
## Activity Glossary

### Grade 2

<table>
<thead>
<tr>
<th>Grade 02</th>
</tr>
</thead>
<tbody>
<tr>
<td>Story Builder</td>
</tr>
<tr>
<td>Maze</td>
</tr>
<tr>
<td>Memorize Game</td>
</tr>
<tr>
<td>Record</td>
</tr>
<tr>
<td>Implode/Logic game</td>
</tr>
<tr>
<td>Colors</td>
</tr>
<tr>
<td>Read</td>
</tr>
<tr>
<td>Block Party</td>
</tr>
<tr>
<td>Poll Builder</td>
</tr>
<tr>
<td>FlipSticks</td>
</tr>
</tbody>
</table>

..........
Activity Glossary

Grade 3

Grade 03

- Story Builder
- Speak
- Memorize Game
- Chat
- paint
- Record
- TamTamMini
- Implode/Logic game
- SliderPuzzle-6
- Read
## Activity Glossary

<table>
<thead>
<tr>
<th>Grade 04</th>
<th>Grade 05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ruler</td>
<td>Scratch</td>
</tr>
<tr>
<td>Speak</td>
<td>Speak</td>
</tr>
<tr>
<td>Measure</td>
<td>Memorize Game</td>
</tr>
<tr>
<td>Memorize Game</td>
<td>Chat</td>
</tr>
<tr>
<td>Chat</td>
<td>Calculate</td>
</tr>
<tr>
<td>TamTamMini</td>
<td>Pippy</td>
</tr>
<tr>
<td>TamTamEdit</td>
<td>TamTamjam</td>
</tr>
<tr>
<td>Read</td>
<td>TamTamMini</td>
</tr>
<tr>
<td>Implode/Logic game</td>
<td>TamTamEdit</td>
</tr>
<tr>
<td>X2o</td>
<td>TamTamSynthLab</td>
</tr>
</tbody>
</table>
Architecture of Network Learning through OLPC

- Access to eSchool Portal via mesh network
- eSchool Portal
- Main Server
- School Server
- Teacher Portal
- Internet

School Server → Internet → Main Server → Teacher Portal
OLPC learning community at school
Home page
Online Library
School text books
Activities
My Profile
Photo Gallery
Student Creations

Writings

Drawings
Local Connection

All the contents store locally

e School

School Specific collaborative learning environment
OLPC virtual community in Sri Lanka
Updated News

SchoolSite welcomes Gill Elementary School to the Internet. Ch Community page which features a warm introduction to Farming.

This elementary school page in Oregon features unusual colors and vibrant images.
Unique Profile

Have you participated to OLPC training?:

What is your School/Office?:

State the number of students(teachers) in your class(School)?:

Write about your interesting areas and about you:

How many XO machines does your school/class room have?:

Course profiles:

Primary teacher at ABC Central College

I'm a primary teacher. This is me personal profile. Actually I do like to work with XO machine.

Share OLPC Experience, Discuss with Ministry of Education, Grade 01, OLPC updated versions, How to intergrate XO machine in the class room.
Discussions with MOE/Technical team/Advisors

Discuss your issues with relevant Authorized people in Ministry of Education about OLPC

Add a new discussion topic

Need more XO machines
by OLPC teacher1 - Monday, 26 July 2010, 09:00 PM
(This is a just sample)

Dear Sir,

Few students entered our school last week. There are no XO machines to give them. So how do we get new machines for them.
# Activities, contents & Materials

## OLPC updated versions

<table>
<thead>
<tr>
<th>Home</th>
<th>Virtual Class Room</th>
<th>My Data</th>
<th>About Us</th>
<th>Contact Us</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home</td>
<td>My courses</td>
<td>OLPC 001</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Navigation
- **Home**
  - My home
  - Site pages
  - My profile
- **My courses**
  - DIS 003
  - DIS002
  - OLPC 003
  - OLPC 001
    - Participants
    - Reports
    - OLPC Version 1.0
    - Activities done by ISA

### Topic outline

<table>
<thead>
<tr>
<th>OLPC Version 1.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>News forum</td>
</tr>
<tr>
<td>Version 1.0</td>
</tr>
</tbody>
</table>

1. **Activities done by ISA**
   - Library

2. 

3. 

### Main menu
- News forum
- Version 1.0

### Search forums
- Advanced search

### Latest news
- Add a new topic...
  (No news has been posted yet)
Sharing Photo Albums

School Visit by UCSC
by OLPC Administrator - Tuesday, 27 July 2010, 01:56 AM

OLPC Library
General Library
OLPC Chat Room
Label
My profile
My courses
Users

Course administration
My profile settings
Site administration
Feedback from Teachers
Post Evaluation...

• Activity categorizing
  • Evaluation Methodology
    • Reinstallation of activities and observation
  • Results
    • Improvement of the activity usage
    • Maximum utilization of activities
Post Evaluation...

- Impact Analysis

- Evaluation Methodology
  - Mawaththegama primary and Kalawila primary
  - Students were given selected assignments related to art, reading, writing, numerical and creative skills

- Results
  - Slight improvements of weak students
Future Work

• Improving the pilot project

• Enhance XO interface based on the survey results

• Developing a mechanism for Sri Lanka
Conclusion

• We have proposed constructive improvements & framework to OLPC Pilot in Sri Lanka

• Constructive improvements & Proposed framework facilitates for OLPC based ICT adaptation in primary education

Acknowledgment

ICT Branch, Ministry of Education

NeLC Project, e-Learning Centre, UCSC

NoC of UCSC

All Supporters to carry out this work
Thank You