



eTextbook initiative in Nciba Circuit Schools

Feedback and Status Report

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Overview of current ICT4RED activities



- ✓ **2012:** Rollout of Dr Math and other Mxit-based Maths and Science options to all Cofimvaba schools
- ✓ **2012/13:** ICT4RED mobile learning pilot at Arthur Mfebe Senior Secondary School
- ✓ **2012:** eTextbook Investigation
- ✓ **2012/13/14:** Identify & rollout “Quick Win” ICT interventions
- ✓ **2013/14/15:** Large eTextbook Initiative

NOW



Learning and Teaching Support Material consisting of paper-based textbooks, workbooks & readers

LEARNERS & HOME

TEACHERS & SCHOOL

GOVERNMENT & POLICY



21st Century Schooling



Learning and Teaching Support Material consisting of interactive multimedia learning resources

Project Management

CONTENT

Standards
Conversion
Creation & Customisation

TECHNOLOGY

Devices
Infrastructure
Connectivity

PEDAGOGY

Training
Preparation
In the classroom

CHANGE MANAGEMENT

People (District, SMT)
Technology
Process

OPERATIONS MANAGEMENT

Logistics
Support & Maintenance
Distribution

RESEARCH

Masters & PhD
Technology R&D
ICT4E R&D

Monitoring & Evaluation

ACTIONS

Enable CHOICE in terms of hardware, software and content, by supporting open standards as much as possible.

Technology

- Meetings with potential DEVICE partners and testing their devices:
 - INTEL
 - Other – FutureMobile, Lucky Mobile, EduTone, MIB-IT
 - OLPC Foundation
 - **Samsung**
 - Tablet prices range from R970 – R2500
- Meetings with infrastructure partners
 - BreadBin – content repository/download service
 - MIB-IT – content media server
- Job description of Systems Engineer being developed
- Quotes from various Wifi equipment providers
 - Amounts range from R50 000 - R300 000 per schools
- Extension of whitespace license to Cofimvaba
- Extension of SANReN to Queenstown

ACTIONS – Testing at Arthur Mfebe

Design the infrastructure at the school to be as robust and self-sustaining as possible, with regard to power, device storage and safety, content provision and network connectivity.

School infrastructure

R150 000 per school

Safe storage and charging facilities at each school – shared and in-classroom solutions

- ✓ 24 lockers
- ✓ UPS backup
- ✓ Combination of off-the-shelf and custom

Local Wifi Network per school

- ✓ Off-the-shelf solutions (quotes vary hugely)

Local Content server per school

- ✓ MobiHub solution in a Secure desk
- ✓ Digital Doorway content
- ✓ Train Your Brain educational content portal
- ✓ Local digital library solution (readers, books)
- ✓ AwareNet educational social network system (local)

Other infrastructure as appropriate

- ✓ 2 x Projectors, 2 x Netbooks and speakers

Actions

Focus on Maths, Science and supporting skills, such as numeracy, literacy and English as a first additional language (EFAL). Where additional content is available and can be easily sourced, it will also be made available.

Content

Meetings

- ✓ BreadBin
- ✓ MIB-IT – Train Your Brain portal
- ✓ Remagine – Via Africa interactive textbooks
- ✓ TIA – possibility of sponsorship of NMMU maths and science system at the 3 Nciba District Senior Secondary schools
- ✓ Sasol Inzalo Foundation – Possibility of funding Siyavula digital maths and science textbooks for Gr 10 - 12
- ✓ UFS – gave them 6 tablets, in exchange for getting their teachers and trainee teachers to find and link appropriate app-based content to the different phases
- ✓ Meeting with MacMillan on 21 Nov
- ✓ Need to schedule Cape Town visit for meetings with publishers

Other

- ✓ Job description of Content Champion/Manager/Specialist developed
- ✓ Will be distributed widely

Actions

Important to focus on underlying “soft skills”, such as leadership and management, in both the district and the schools. Focus is on preparing District officials and school management team (SMT).

Change Management



Community buy-in

- ✓ Launch on 3 Dec part of this action

District and Province

- ✓ Meetings underway (driven by Kristin and Rensie)

School Management Team

- ✓ Some work done as part of Arthur Mfebe pilot

Educators – Arthur Mfebe

- ✓ ICT Change Management
- ✓ Digital literacy
- ✓ Digital responsibility and footprints

Learners – Arthur Mfebe

- ✓ Digital literacy
- ✓ Digital responsibility and footprints

Actions

Gradual, pragmatic introduction of educators to the technology and “teaching with technology” will give them time to integrate the technology into their teaching practice.

Pedagogy & Teacher training

Digital educator “edupack”

- ✓ DBE have asked for ideas on this – being driven by Maggie Verster

Teacher pedagogical support person per school

- ✓ Focus on “how to teach with the technology”
- ✓ Agreement from Sasol Inzalo to support this

Training courses

- ✓ Close links with change management
- ✓ 10 - 12 courses
- ✓ After hours (afternoons)
- ✓ Short (3 hours)
- ✓ Different training content according to school phases (Foundations vs Intermediate vs Senior)
- ✓ 5 Courses for Senior Phases completed (as part of Arthur Mfebe pilot)

Actions

Tiered approach – local, on-site support and centralised escalation options.

Operations

Rollout

Implementation teams

- ✓ Wifi network + other infrastructure
- ✓ One school every 2 weeks
- ✓ A lot of learning from Arthur Mfebe (electricity installations non-standard/illegal, trenches needed to be dug, etc, etc.)

Operational Management

Local on-site technical support per school

- ✓ Train young, unemployed youth from the community – EduNova is our partner of choice
- ✓ Local manager in Cofimvaba
- ✓ Central Help Desk
- ✓ Escalation to experts

Operations

- ✓ CSIR Meraka to incubate
- ✓ Link to existing operational environment for B4AI
- ✓ Handover NB!

RESEARCH and MONITORING & EVALUATION

Identify replication and rollout models, based on real world feedback, but backed by research.

- **Meraka as RESEARCH champion**

- Marlien Herselman (SA rated researcher) to drive this
- Scholarship programme being developed
- 3 candidates already identified:
 - PhD on eTextbook business models – via UNISA (joint supervision with CSIR Meraka)
 - Masters on Mobile Learning methodologies – via University of Johannesburg (joint supervision with CSIR Meraka)
 - Request from NMMU still in progress
- RFP process via NRF – Masters and PhD candidates
- Partner with universities
- Identify supervisors



Risks

- **FUNDING** – tight timeframes mean that if funding cannot be secured quickly enough, then it becomes difficult to intervene in all 25 schools in 2013 (after August it is inadvisable to do any implementation in schools because of exams, other than in Foundation phase)
- **CONTENT** – Urgently need to contract in a champion (this work package needs to start asap)
- **PROCUREMENT** – Because of CSIR procurement policies and transparency reasons, this can take long
- **BACKBONE CONNECTIVITY** – If we cannot access SANReN, then using local options (cellphone network operators, Telkom, satellite providers) adds **R6 million** to the budget (for limited connectivity)



Risk Mitigation strategies



- **FUNDING** – Leverage pockets of unspent end-of-year funding in government. If funding cannot be accessed timeously, then **scope down** or expand by an additional year (e.g. rollout in first 9 schools in 2013, secure additional funding in 2013, rollout additional schools in 2014, measure 1 full school year in 2015, handover March 2016)
- **CONTENT** – Appointment of Content champion asap
- **PROCUREMENT** – Start asap – at least publishing RFP/RFQs etc.
- **BACKBONE CONNECTIVITY** – Run a fully offline service (not an advisable option, but it can be done)



Thank you