The Maths Lab Project

Ukhanyo School, Masiphumelele

PROJECT OBJECTIVE:

Within three years, to have raised the standard of maths teaching and learning, through long-term and sustainable skills transference to the maths teachers.
BACKGROUND to the Project

UKHANYO SCHOOL:

- in Masiphumelele Township, South Africa
- Over 1500 children
- 35 teachers
- 50 pupils to a class
- Impoverished community – “poorest of the poor”
- High rates of unemployment, crime, HIV/AIDS
- Staggering rates of illiteracy & innumeracy
- In 2011 less than 5% of Grade 6 children passed standardized Language and Maths tests
BACKGROUND: Turn Around Time

2011: Science Lab Project
• volunteer teacher Fran Loudon responded to a newspaper interview and met with Principal, Mr Tyhali and as a result, initiated the 3 year Science Lab Project (funded by Frank Jackson Foundation)
• a very successful project with strong shifts in teacher & learner confidence and results.
• this project is approaching its end (2014) and the teachers are ready to ‘go it alone’.

2012: English Lab Project
• volunteer teacher Jan O’Connor with Masicorp, initiated the 3 year English Lab Project, also funded by the Frank Jackson Foundation, based on the same model as Science Lab
• even greater teacher demand and participation
• Strong, significant shifts in teacher and learner results. Onward and upward!

2013: Staff Development & Mentoring Management & School Refurbishment
• English & Science Lab Projects continue to see strengthening results.
• Masicorp support extended to mentoring management (also Principals Academy)
• Masicorp school and classroom refurbishment (funded by Rotary Club). Very popular!
• The need for teacher support in Maths becomes even more focused

2014: Maths Lab Project Proposed
• We’ve got the Model and the Project Leader for the Maths Lab
• We’ve a long queue of teachers asking for help in a Maths Lab
• We want and need to initiate the Maths Lab Project

Then, when we have the Maths Lab Project, all the elements are in place to turn this school around . . . from a failing school to a successful school!
ANNUAL NATIONAL ASSESSMENT (ANA) RESULTS 2013

Standardised, external testing – All Grades

Comparing our grade averages 2013 with 2012
OUR TEACHERS are improving.

<table>
<thead>
<tr>
<th>Grade Range</th>
<th>Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gr 1-3</td>
<td>Up 3%</td>
</tr>
<tr>
<td>Gr 4-6</td>
<td>Up 8%</td>
</tr>
</tbody>
</table>

Comparing our school 2013 results with other schools in our district, our performance **IS LOWER** and **DECREASES ALARMINGLY** as the grades progress

<table>
<thead>
<tr>
<th>Grade Range</th>
<th>% Lower</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gr 1-3 (% of pupils passing)</td>
<td>10% lower</td>
</tr>
<tr>
<td>Gr 4-6 (% of pupils passing)</td>
<td>18% lower</td>
</tr>
</tbody>
</table>
# OUR MATHS RESULTS

## SYSTEMIC RESULTS 2013
Standardised, external testing – Gr 3 & 6 only

<table>
<thead>
<tr>
<th>% Pupils Passing</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gr 3</td>
<td>36</td>
<td>39</td>
<td>44</td>
<td>43</td>
</tr>
<tr>
<td>Gr 6</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>12</td>
</tr>
</tbody>
</table>

## LOOKING AT TRENDS YEAR TO YEAR:

Gr 3: Slow improvement but less than half the class is passing  
Gr 6: Consistently less than 5% pass rate until 2013 when we had an exceptional group  
Note: this group 6 had more than a 50% pass rate in English but still only 12% passed Maths

## LOOKING AT THE TREND AS WE GO from JUNIOR GRADES to HIGHER GRADES:

There is a truly alarming drop in the number of pupils passing!

## OUR PROJECT ASSESSMENT would be based on improvements in these results.
What Can We Do?

OUR MODEL OF SUPPORT

Slowly but surely, one small step at a time
Building relationships & trust
with teachers and learners.

Looking and listening carefully,
Being responsive not prescriptive.

Smashing through critical thresholds
as new paradigms emerge and intersect.

*Transforming the school,*
*Transforming the community.*

We RAISE EXPECTATIONS,
We SUPPLY SKILLS & RESOURCES
(to support the increased expectations)
We INSPIRE CONFIDENCE & MOTIVATION
(to use the new skills and resources!)

*Image 1: Class activity*
*Image 2: Classroom setting*
# UKHANYO MATHS LAB PROJECT OUTLINE

## YEAR 1

<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recruit Project Leader</td>
<td>Scott Smith has been selected and will work pro bono. Honorarium towards living costs.</td>
</tr>
<tr>
<td>Set up Maths Lab Room</td>
<td>The Principal has identified an appropriate classroom for this purpose. Fit out and resources subject to funding. Assess underutilization of existing resources.</td>
</tr>
<tr>
<td>Recruit a Maths Lab Assistant</td>
<td>To improve the personal productivity of the Project Leader. Help set-up the new maths room. Assist with Xhosa speakers.</td>
</tr>
<tr>
<td>Build Relationships &amp; Trust</td>
<td>With teachers, pupils, school management and the community.</td>
</tr>
<tr>
<td>Observe &amp; Consult</td>
<td>Current teacher practice and its challenges. In key grades, in particular Gr 5 &amp; 6 where maths skills are weakest.</td>
</tr>
<tr>
<td>As requested by teachers</td>
<td>Eg. how to use resources with large classes (~ 50 to a class). Eg. how to teach Maths when language skills are limited.</td>
</tr>
<tr>
<td>Test Drive for yourself, and</td>
<td>Eg. How to incorporate IT when hardware &amp; internet often not working.</td>
</tr>
<tr>
<td>Demonstrate for others</td>
<td>Eg. How to use textbooks effectively (a new skill as texts are a new resource).</td>
</tr>
<tr>
<td>Systems &amp; Possible Solutions</td>
<td></td>
</tr>
<tr>
<td>Familiarise</td>
<td>With Western Cape Education Department (WCED) resources &amp; advisors. With new CAPS curriculum. With internal &amp; external test results to target areas in need of support.</td>
</tr>
<tr>
<td>Liaise</td>
<td>With Fran Loudon &amp; Jan O’Connor for peer advice and support.</td>
</tr>
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</table>

## YEAR 2 & 3

<table>
<thead>
<tr>
<th>Activity</th>
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<tbody>
<tr>
<td>Continue as above</td>
<td>Focus on Peer Mentoring &amp; Systems for SUSTAINABILITY.</td>
</tr>
<tr>
<td>Plus</td>
<td>Extend project to include other year levels.</td>
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MATHS LAB PROPOSAL:

• We’ve got the model.
• We’ve got the room.
• We’ve got the project leader.
• We’ve a queue of teachers asking for help.

• We simply need the funding.

Thank you for your time & concern.