Introduction

Five schools in Limpopo are to be provided with connectivity and devices through the TV White Spaces pilot project. SchoolNet SA has been appointed to provide professional development and mentorship to participating teachers to ensure that the schools involved in this project maximize the benefits that ICT and a connected classroom bring to education. This report describes the initial interventions and professional development sessions that took place between November 2013 and February 2014.

Project Introduction and Orientation

Dates: 19 + 20 November 2013

Angela Schaerer (from Microsoft) and Megan Rademeyer (from SchoolNet) visited Limpopo to meet the principals and teachers who will be involved in the Limpopo TV White Spaces project. During these visits, details of the current equipment and connectivity at the schools were gathered as well as the names and contact details of the five champion teachers per school who are to receive training. These visits played an important role in ensuring that school leaders know about the White Spaces project and that they and the selected champion teachers are willing to commit to being part of it. It was also worth capturing a sense of the current use of technology at the schools to use as a baseline assessment for this project.

Angela Schaerer and Maureen Mphatsoe (from Microsoft) and Megan Rademeyer met with the Vice Chancellor of the University of Limpopo Professor Mahlo Mokgalong as well as the acting head of the School of Education Dr Satsope Maoto and members of her team. These meetings helped to clarify the roles and responsibilities of the different role players in this partnership. The University’s commitment to the project was very much evident in the brand new White Spaces Base Station Building that had been constructed.
especially for this project. The School of Education also expressed an interest in possibly assigning a post graduate student to the White Spaces Project to conduct an evaluation of this initiative.

A meeting was also held with the following representatives of the Capricorn District of the Limpopo Provincial Department of Education: JM Mametja (District Senior Manager), Mrs Moshala Malatji (District Senior Manager), Kgabo Mohlabeng (IT Technician) and Tlakale Sefoka (ICT Co-ordinator and ICT Skills Trainer). During this meeting district officials were briefed on the project and asked to offer their support. Ms Sefoka mentioned that she was a SchoolNet SA ICT Skills for Teachers trainer and would be willing to offer the initial training to the teachers selected as champion teachers.

**ICT Skills for Teachers**

Dates: 29 + 30 November 2013; 17 January 2014

The ICT Skills for Teachers course was offered to five champion teachers from each of the five schools participating in the Limpopo TV White Spaces Pilot project. The intention of this course was to ensure that teachers would have at least some basic computer skills prior to the devices being delivered to the schools. It was also hoped that teachers with good computer skills would be identified to assist with implementing Office 365 at the schools.

The initial training sessions took place on 29 and 30 November 2013 at a computer lab at the University of Limpopo. Tlakale Sefoka, a Capricorn district ICT coordinator and SchoolNet SA trainer facilitated the training session. As Tlakale’s job already involves supporting teachers using ICT in the Capricorn District she was an excellent choice as she offered to continue to support to the White Spaces teachers after their initial training session. Tlakale has also attended subsequent training sessions to keep abreast with developments in the project and hopes to be able to visit the schools to see teachers implementing what they have learnt in the sessions.

Unfortunately on 1 December 2013 the third day of training could not take place as scheduled as the University experienced a campus-wide power cut. This final day of training was postponed to 17 January 2014 and a positive outcome of this delay was that teachers had additional time to practice their computer skills. Unfortunately five teachers who had attended the initial two days of training were unable to attend the third day of training as it clashed with compulsory CAPS training for their subjects. These teachers have been asked to produce three samples of work (an Excel, Word and PowerPoint document) to prove that they have done sufficient work on the ICT Skills for Teachers course to also receive a SACE accredited certificate.

The trainer reported that the there was a wide range of computer skills amongst the group: one teacher could not hold a mouse; nine teachers had basic skills and required a lot of support; six teachers had intermediate skills and required some help. Two teachers had advanced skills and were able to support some of their colleagues.
The first two days of training consisted of the trainer working through a basic scenario to demonstrate how the courseware works followed by teachers working on scenarios of their own choice. On the third day of training all of the teachers were able to work through scenarios on their own and the trainer remarked that during the showcase session a number of teachers displayed creative documents and demonstrated good presentation skills.

**School Community Meeting & Vision and Policy Workshop**

Dates: 30 January – 1 February 2014

On the afternoon of 30 January 2014 a School Community Meeting took place at “White Spaces House” at the University of Limpopo including a range of stakeholders, namely principals, champion teachers, district officials, University of Limpopo representatives and learners. Participants were asked to sit in school groups and together they conducted a SWOT analysis of the Limpopo White Spaces project, considering both the potential value of the initiative for their schools and the risks (the SWOT analyses that were produced by each school is appended to this report). It was especially rewarding to see the learners’ voice playing an important role in the school discussions and for the ultimate beneficiaries of this project to have an opportunity to contribute towards a vision for this project.

The whole group enjoyed the Windows 8 demo that was put on by Colin Erasmus assisted by Luca Decour and Ranersan Moodley (of Microsoft). During this session participants got to experience a Windows 8 device for the first time and learnt valuable skills such as how to locate the charms and how to scroll through the Windows 8 tiles.

Whilst teachers reported back on their schools’ SWOT analyses learners enjoyed a technical trouble shooting workshop with Microsoft representatives that equipped them with further skills for using the Windows 8 devices. Learners were shown how to connect the devices to Wifi, how to change the settings and how to download and open different applications. By the end of this session everyone’s confidence had increased and learners were eagerly awaiting the arrival of their school’s devices.

On the afternoon of 31 January and the morning of 1 February 2014 champion teachers and principals enjoyed seeing projects created by previous participants in the Microsoft in Education Forum. These projects helped to create a vision of what is possible and gave teachers some ideas for how technology could be incorporated into teaching to enhance learning.

Seeing what other teachers had done was a good introduction to the activity that involved school groups brainstorming how they would establish a vision for ICT use at their schools. Groups were asked to consider: how they would go about creating their vision; how they would include ideas from their SWOT analysis; who would be consulted and how consensus would be reached. We look forward to seeing the completed school ICT visions during the next project visit to Limpopo.
In order to capture baseline information for the five schools participating in the Limpopo White Spaces project, each school group was asked to complete the Self-Reflection Tool of the Microsoft Innovative Schools Toolkit. (http://www.is-toolkit.com/self_reflection.html). The intention of this was to capture each school’s perceptions of its learning environment; teaching, learning and assessment practices; capacity building; and leadership and culture of innovation at the outset of the project to compare to results of this survey at the end of the project.

The weaknesses or challenges of the Limpopo White Spaces Project that were listed in the various SWOT analyses were summarized into key challenges that came up on most school’s lists. Teachers were placed in groups that included representatives from the different schools and they were tasked with brainstorming ways in which the challenges to the project could be mitigated. Once these ideas had been brainstormed, the groups were challenged to present their solutions as either a Autocollage, Windows Live Movie Maker movie or Songsmith song. This activity provided a fun opportunity to make use of the Windows 8 devices and to explore some of the free tools available on the Partners in Learning Network. On a more serious note, participants realized that whilst the project would involve some obstacles these were not insurmountable and collectively they could think of ways to minimize the risks associated with this project.

Ranersan Moodley told the group about his experiences of keeping track of equipment at Microsoft and he provided some valuable pointers about logging equipment, assigning user names and tracking each device. School representatives saw the need to set up a system for monitoring who will have access to the devices and the importance of ensuring that accurate records are kept of when devices are returned and in what condition.

Office 365 Provisioning Details
The first names and surnames of each teacher at each of the five pilot schools was submitted to SchoolNet SA for collation. The details of a contact teacher per school who will drive the Office 365 registration process and his or her email address were also gathered. Only one school was able to email through the details and other schools faxed in their staff lists. These details were all collated on a spreadsheet so that Office 365 can be provisioned for each of the five Limpopo TV White Spaces Schools. We look forward to teachers being able to make use of their Office 365 profiles during the upcoming Office 365 training session.

Appendix: SWOT Analysis of the Limpopo TV White Spaces Project

Mountainview High School

<table>
<thead>
<tr>
<th>STRENGTHS</th>
<th>WEAKNESSES</th>
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<tbody>
<tr>
<td>- Access to Internet which will make learning easier</td>
<td>- The devices are fragile and expensive</td>
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<tr>
<td>- Improve results</td>
<td>- Learners accessing non-educational sites especially when under no supervision</td>
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<td>- Saves time</td>
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<table>
<thead>
<tr>
<th>OPPORTUNITIES</th>
<th>THREATS</th>
</tr>
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<tbody>
<tr>
<td>- Exposure to technological world for both learners and educators</td>
<td>- Learner tabloid ratio is not feasible relative to the school roll (1900+:33)</td>
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<tr>
<td>- Learners from disadvantaged backgrounds will benefit from the project in a positive way</td>
<td>- Security</td>
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<tr>
<td>- Access to maximum information</td>
<td>- Electricity failure</td>
</tr>
</tbody>
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### Doasho High School

**STRENGTHS**  
- Dedication  
- Focussed (vision and mission)

**WEAKNESSES**  
- Lack of technological skills  
- Lack of resources i.e. Computer centre, devices  
- The challenges of overcrowding in classes  
- Safety

**OPPORTUNITIES**  
- Ability to access information from the Internet/computer  
- Ability to communicate with the outside world i.e. skype  
- The project makes our learners develop passion in computer studies

**THREATS**  
- Lack of commitment  
- Lack of support eg stakeholders  
- Theft

Minimising threats:  
- Security 24/7  
- Including all stakeholders  
- Number of learners in the media centre should be limited

### Mamabudusha High School

**STRENGTHS**  
- Empower learners and educators  
- Access to data  
- Improve results  
- Upgrade the standard of education  
- Save time  
- Exchange information with other schools

**WEAKNESSES**  
- Computer illiteracy – learners and educators  
- Not having enough devices  
- Negative attitude towards technology

**OPPORTUNITIES**  
- Open more doors for learning  
- Improve results and performance  
- Add value to the school

**THREATS**  
- Theft  
- Damage by learners  
- Technophobia  
- Not willing to share  
- Funding to sustain the project

### Mphetsebe High School

**STRENGTHS**  
- Acceptance  
- Create a bond between learners, educators and the world at large  
- Allowing learners and educators who are not technologically advanced to get knowledge  
- Support from the community teachers and us learners

**WEAKNESSES**  
- Difficult to use – some programmes  
- They will need more time to adjust to the equipment  
- Due to overcrowding at our school, some learners will not have access to our equipment

**OPPORTUNITIES**  
- It will help others to write their homework  
- It helps learners to use the maps on geography  
- It also helps to Google many things  
- To have more knowledge  
- To improve self-esteem of the learners  
- It will also help us learners to connect and see things in other countries

**THREATS**  
- People stealing the equipment  
- Without network, there is no connectivity eg searching in Google in order for meanings of words

### Ngwanalaka High School

**STRENGTHS**  
- Commitment – attending all organised workshops; the support from the school for participating educators/learners  
- Safety and security of all supplied materials  
- Making good use of the material supplied

**WEAKNESSES**  
- The number of equipment allocated to a school vs the number of learners and educators  
- Limited duration of training
OPPORTUNITIES
- Basic computer literacy
- Internet gives more information – homework; detailed information for lesson planning
- The ability to connect with anyone helpful

THREATS
- Theft
- Damage ie how to repair or fix

Combined list of challenges:
- Theft/security of devices
- Not having enough devices - learner device ratio is not feasible
- Computer illiteracy of educators and learners
- Technophobia
- Learners accessing non-educational sites especially when under no supervision
- Internet safety and security
- Unreliable electricity
- Lack of commitment from school stakeholders
- Sustaining the project
- Fixing and repairing devices if they break; Internet going down; the devices are fragile and expensive

Megan Rademeyer
Programmes Manager
SchoolNet SA – 12 February 2014