Report of ICT training and support

February to October 2013

The Faculty of Education – School for Research and Engagement
ICT Training and Support Program

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1. INTRODUCTION

The year 2013 was exciting and challenging. Challenging as we had to work in more schools than before, but exciting as we could assist schools who were in dire need. Mr Preston Geswindt took great initiative and with the able assistance of Mr Eldridge Van der Westhuisen, played a pivotal role with our new outreach in the Sundays River Valley in the Uitenhage district. In the following sub-sections, the progress will be reported pertaining to each school, as well as research publications and our scientific literacy and Khan Academy Mathematics initiative.

2. PROGRESS

ICT training and support was active at the following schools for 2013; Sandisulwazi High, La Trobe Primary, Mhlopekazi Primary and Rietberg Primary. The support was mainly in the form of teacher training, technical support to the sites as well as learner utilisation of the ICT facilities. A brief synopsis of the work done at each site follows below.

2.1 LA TROBE MORAVIAN PRIMARY SCHOOL

In the subsection below, an overview of the school's profile, infrastructure and the assistance provided, are reported.

2.1.1 School Profile

The school is situated in the historical village of Enon – founded in the early 1800's by the Moravian Missionary Society. The school has 6 Educators and one administration clerk. Total learner enrolment is as follows:

Grade	R	1	2	3	4	5	6	7	**Total**
No.	23	42	34	26	29	22	19	19	**214**

2.1.2 ICT Infrastructure

There are twelve brand new desktop computers in the computer room. All are networked. It includes a scanner and a laser printer. A data projector is used for presentation. Due to the remote location of the village, internet connectivity is a challenge. We hope to overcome this shortly using 3G connectivity. Training occurs

every Thursday. Due to the small number of teachers, it was relatively easy to have one on one sessions as well as group sessions after school.

2.1.3 Training Program at La Trobe Primary

Only one teacher, as well as the administration clerk, has had formal computer end user training prior to our assistance. The remaining teachers had to start with very basic training. Areas covered since March, were as follow:

- Introduction to the Personal computer:
- Power on/off procedures, logging onto the computer.
- Shutting down procedure with mouse and keyboard.
- Caring for the computer
- Keyboard and mouse skills.
- File and folder Management – extensive initial training but on-going and integrated with all sessions.
- Word Processing:
- Creating a simple advertising flyer, Simple worksheets using examples from teachers' own workbooks (NB Portfolio)
- Drafting question papers the quick and easy way using tables.
- Manipulation of pictures using MS Paint and importing such pictures into worksheets and question papers.
- Spread sheet:
- Creating class lists and mark schedules. Using basic MS Excel formulae. Alphabetical sort techniques.
- Design of mark schedules with simple formulae used to automatically calculate sub-totals and final totals.
- Scanning and picture manipulation:
- Each teacher received training on scanner techniques and manipulation of scanned images including inserting scanned images into documents.
- Data Projector: One teacher was trained to setup and use the data projector. She applied this skill during fundraising events for the school.

We are very happy and encouraged with the progress made by the teachers. All of them appear very confident end users. Most of them will be able to assist learners when they are introduced to the computers shortly.

La Trobe teachers in session designing spread sheets

2.1.4 Further training for 2013

During November, the grades 5 and 6 learners will be introduced to the computers. The focus will initially be on the correct use of the computers before introducing them to the educational software and MS Paint. The school also requested assistance with timetabling using the computers. Mr Geswindt will work with the principal and two teachers before the school shuts down for the year end break to assist with the above.

2.2 MHLOPEKAZI PRIMARY SCHOOL

An overview of the school's profile, infrastructure and the assistance provided, are reported below.

2.2.1 School Profile

This school is situated about 3km from La Trobe Primary school in the township of Bersheba. School Profile.

There are five teachers and the learner enrolment for 2013 is as follows:

Grade	R	1	2	3	4	5	6	7	8	**Total**
No.	22	18	16	12	14	10	16	9	9	**126**

2.2.2 ICT Infrastructure

The school has only one working computer used by the admin clerk. Because of the close proximity, it was felt that they should also be included in the training sessions. The teachers come over to La Trobe Primary for training sessions on Thursdays. Four teachers initially joined the training. Only three are regular attendees.

2.2.3 Training Program

The sessions with this group of teachers are separate from those with the La Trobe Staff. The La Trobe group were far ahead in the program and it would not be feasible to join the two groups.

Thus the following was done with the group from Mhlopekazi Primary:

- Introduction to the Personal computer:
- Power on/off procedures, logging onto the computer.
- Shutting down procedure with mouse and keyboard.
- Caring for the computer
- Keyboard and mouse skills.
- File and folder Management – extensive initial training but on-going and integrated with all sessions.
- Word Processing – Only a basic introduction to MS Word.

2.3 SANDISULWAZI HIGH SCHOOL

In the subsection below, an overview of the school's profile, infrastructure and the assistance provided, are reported.

2.3.1 School Profile

This school is situated about 75km outside Port Elizabeth and is at the eastern extreme of the Sundays River valley. The school has 15 Educators, 3 appointed in a temporary capacity.

The learner enrolment for 2013 is as follows:

Grade	8	9	10	11	12	**Total**
No.	72	79	62	52	36	**301**

The school has had a very turbulent academic year with many disruptions during the first semester. Parents and learners were jointly demanding the appointment of Mathematics educators. The demands were somehow met towards the end of the first semester, hence the appointment of the additional three teachers.

The nature of the work at this school was providing institutional support in the form of assistance with time table creation. This had to be done a few times this year as the work allocation of the teachers often changed to allow for the curriculum needs of the school. This situation stabilised in the second semester.

2.3.2 Teacher ICT training:

Following on from the short intervention during 2012 we continued the computer training focussing on the following areas:

Word Processing:

Creation of effective worksheets

Question Paper typing using a table grid instead of the normal way of using MS Word. The method of using a table speeds up the process of typing question papers and the end product has a far neater and professional finish.

Spread sheets:

We continued this area with training in Spread Sheet design to enable teachers to speedily capture and process marks. It also included the use of simple MS Excel functions as well as the creation of custom formulae for processing marks.

Scanning Techniques:

All teachers were given training on basic scanning techniques. This included the manipulation of scanned images and how to incorporate the images into documents.

2.3.3 Learner ICT training

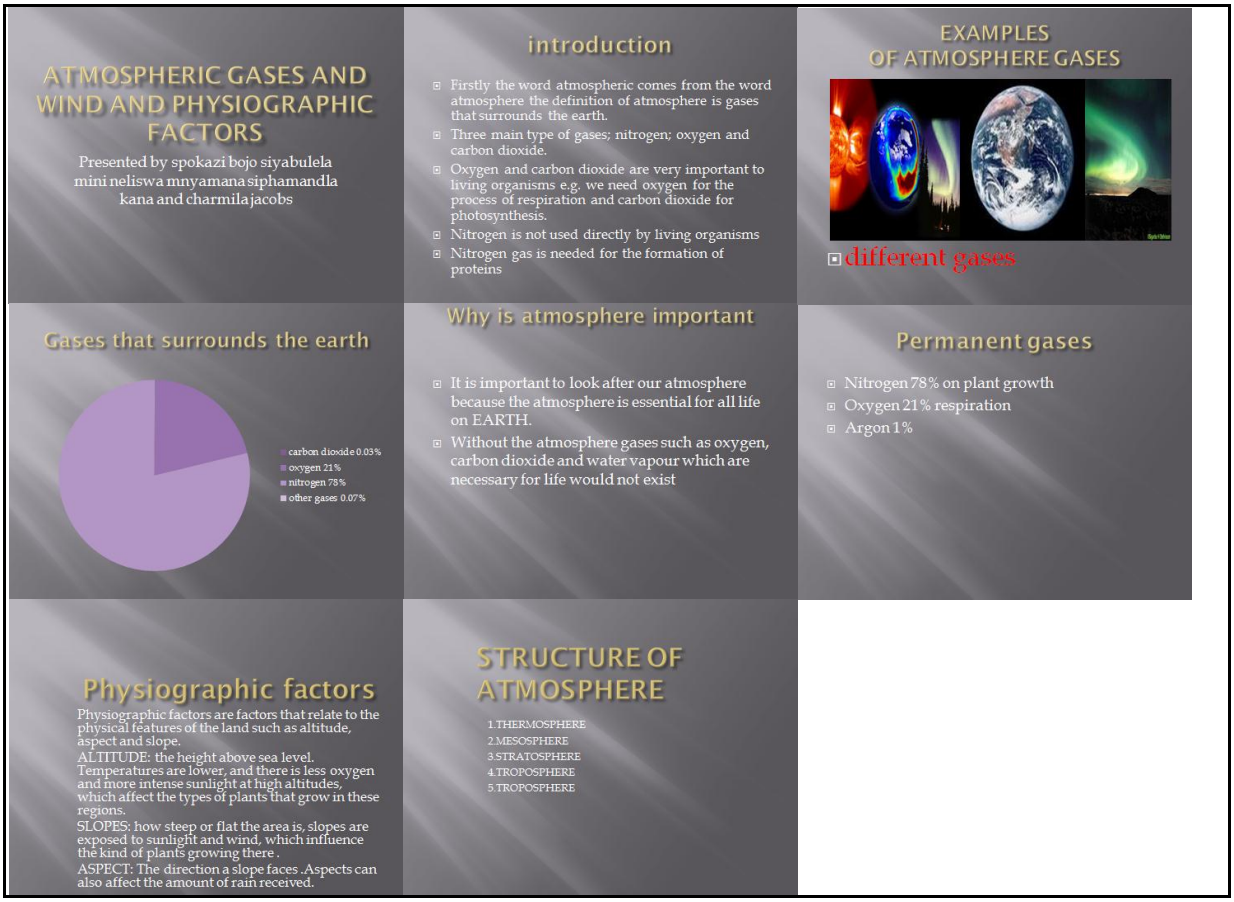
The learners at this school have really taken to using the computer facilities. The learning areas that uses the computer lab most is Mathematics, Physical Science, Life Sciences, Geography and Business Studies. The teachers offering these subjects try at all times to integrate their respective curricula with the resources offered by the computer lab. Learners regularly do research using both on-line and off-line resources. Grade 10 Life Science learners are now presenting assignments using MS Power Point after researching topics on the internet. Two very useful software packages were installed on the computers, namely CAMI–Maths and the off-line version of the Kahn Academy videos.

All learners were enrolled on CAMI Maths. This is an interactive program that covers Maths, Physical Science and English Literacy. It is most effectively used be the Grade 8 and 9 Mathematics Teacher. Learners regularly use this resource. There has been a marked improvement in the performance of these learners. More significantly, it is bringing about an attitudinal change in these learners. Learners are appearing more eager to work at Mathematics.

Grade 11 and 12 learners regularly use the Khan Academy videos and CAMI software for revision. Overall the computer skills of the learners have accelerated and the computer room is always in use throughout the day and afternoons.

***Sandisulwazi Computer room**. Principal and HOD (far left) doing mark schedule design. Grade 10 learners surfing the web for information and doing Power Point presentations*

Below is an example of a PowerPoint presentation created by a group of grade 10 Life Sciences learners. This was done after a very short training session by their teacher. We have introduced the ‘*’Story Board”* concept to their teacher. This will help learners to organise their information better and will lead to better presentations.



2.4 RIETBERG PRIMARY SCHOOL

An overview of the school’s profile, infrastructure and the assistance provided, are reported below.

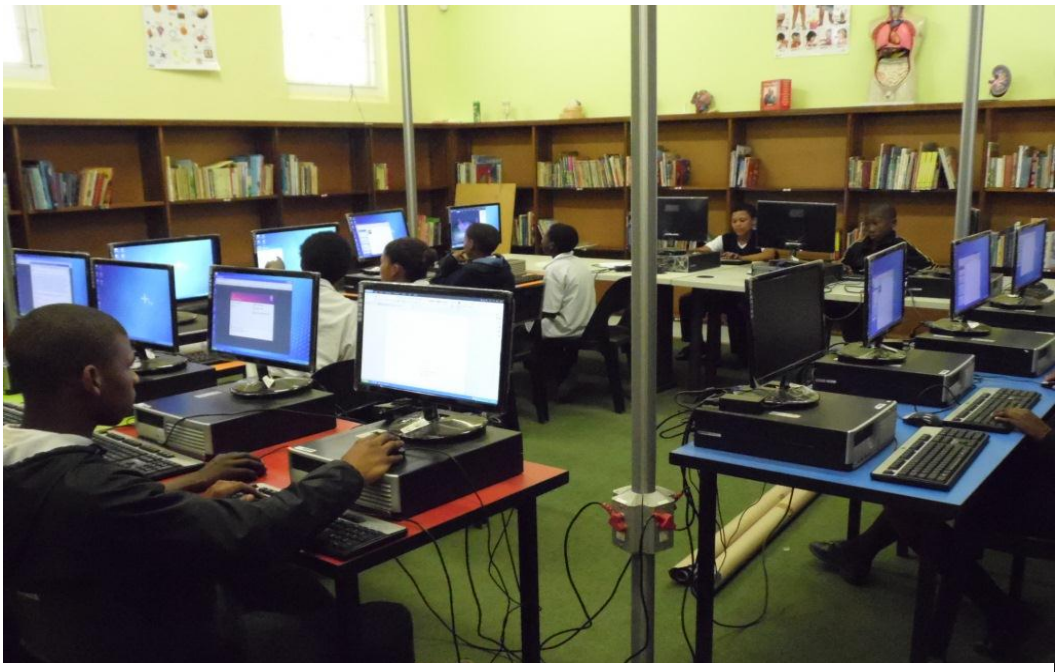
2.4.1 School Profile

Rietberg Primary is located in the town of Kirkwood, a major citrus producing node in the Sundays River Valley. The school has 22 teachers and the learner enrolment for 2013 is as follows:

Grade	R	1	2	3	4	5	6	7	**Total**
No.	111	128	142	109	115	85	70	82	**842**

2.4.2 Training

The school will be included in the training and support program shortly. Current we are busy with setting up and preparing the computer room for teacher and learner use. The computers have been networked and software packages have been installed.



Rietberg Primary – Library/Computer room. Ready for teacher and learner training

3. PORT ELIZABETH SCHOOLS SUPPORT

In Port Elizabeth, we have continued to support two primary schools, namely Enafini and Emfundweni. We assist them when they ask for training and have also fixed their CMOS batteries in their computers. We have also assisted theirs who have bought laptips with internet connectivity to the wifi hotspot in the computer room at Emafini. Emafini uses Excel for class list generation and Mrs Thambo uses PowerPoints in meetings with parents and the GM Foundation.

4. RESEARCH PUBLICATIONS

Dr Andre' du Plessis and Prof Paul Webb have presented on the project and their initiatives at various forums at the end of in 2012 and during 2013. These publications are indicated below:

- Du Plessis, A. (2013). Wikis and PowerPoints as cognitive development tools in Scientific Literacy. International Scientific Conference, "Information & communication technology in natural science education – 2013", 24-26 October 2013, Siauliai, Lithuania.
- Du Plessis, A. & Webb, P. (accepted and to be published 2013). A proposed ICT implementation heuristic for schools in disadvantaged contexts: An African perspective from South Africa. *Science & Technology Education for Development, Citizenship and Social Justice, IOSTE 15 Symposium*, La Medina - Yasmine Hammamet, Tunisia, October 28 to 03 November 3, 2012.
- Du Plessis, A. & Webb, P. (accepted and to be published 2013). A heuristic for higher level student cognitive thinking and questioning through collaborative student designed wiki-based Cyberhunts Seventh International Conference on Science, Mathematics and Technology Education to be held in Muscat, Oman from November 4 to 7, 2012.
- Du Plessis, A. (2013). A heuristic for ICT implementation in schools and FET colleges. Presentation at 4th Annual ICT in Higher Education, Johannesburg, 18-19 March 2013.

5. CONCLUSION AND PROJECT 2014

We have started to plan for 2014 and hope that we will be able to implement the Xhosa Khan Academy Mathematics videos that we are busy preparing for implementation in 2014. In addition, we have also developed an ICT based Scientific Literacy Heuristic that we would like to implement in 2014.

We would like to thank Mr Alan Appel and the Hermann Ohlthaver Trust for their support. Rest assured that we highly appreciate your assistance and that it is never taken for granted.