

**NMMU/Herman Olthaver ICT intervention
2015**

Report as at the end of May 2015

1. Overview of Last Quarter 2014

During the last quarter of 2014 we focussed on consolidating the training and teaching activities at Rietberg and La Trobe Primary schools and Sandisulwazi High School. We unfortunately had to stop the work at Zanoxolo Primary in Motherwell due to a burglary in the computer lab. The school intends to bolster their security before operating the computer lab again.

1.1 Rietberg and La Trobe Primary Schools

Teacher training (with 7 teachers) continued at Rietberg Primary School until the end of the school year. General training in basic computer skills were conducted in group sessions in the afternoons. We continued to focus on file and folder management, word processing and spread sheet skills. Practical activities included the drafting of question papers and worksheets and the manipulation of diagrams. Spread sheet training involved the creation of mark schedules. Teachers also practiced the use of basic functions and working with simple formulae.

Training of the learners of grade 5 and 6 at Rietberg Primary as well as grades 5 – 7 at La Trobe Primary continued right up until the start of their final examinations at the end of 2014. Approximately 243 learners at these two primary schools benefited from this training programme. As reported last year these learners had to survey the trees on the campus and compile reports using a spread sheet, word processor and finally a power point presentation. The pictures of the various species of trees were downloaded onto the computer network. Learners had to navigate to the picture folder to select examples to be included in their reports. Learners were also expected to identify the tree species in the pictures. Grade 6 learners at Rietberg we included in the training sessions in basic web search techniques. These learners had to search for information on national symbols such as the national tree and flower. Downloaded pictures of these symbols were included in the final Power Points. Fig. 1 shows a sample of the final folders of learners. Internet skills cannot be done at La Trobe Primary as the village is too remote for stable 3G signal or any other source of Internet.

Fig. 1 A sample of the final folders for grade 6 learners at Rietberg Primary School

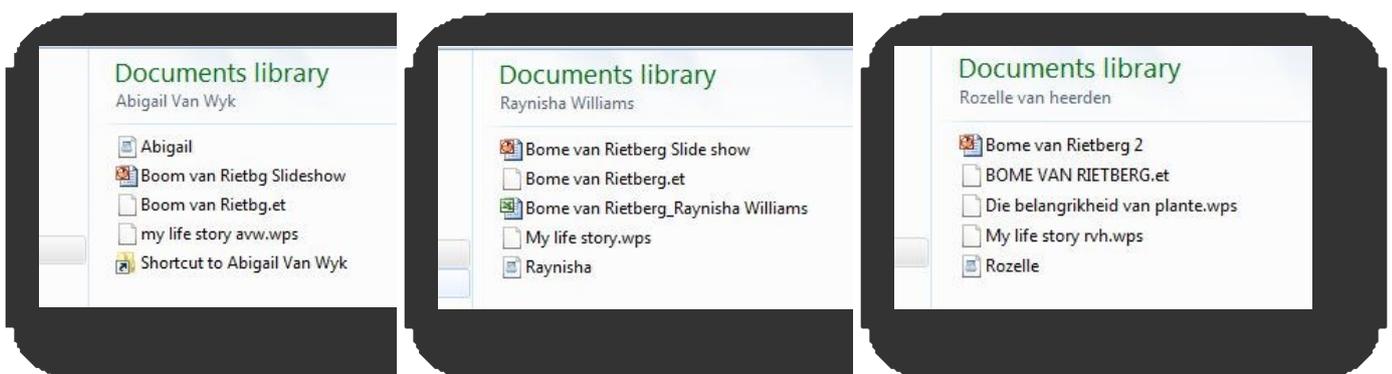
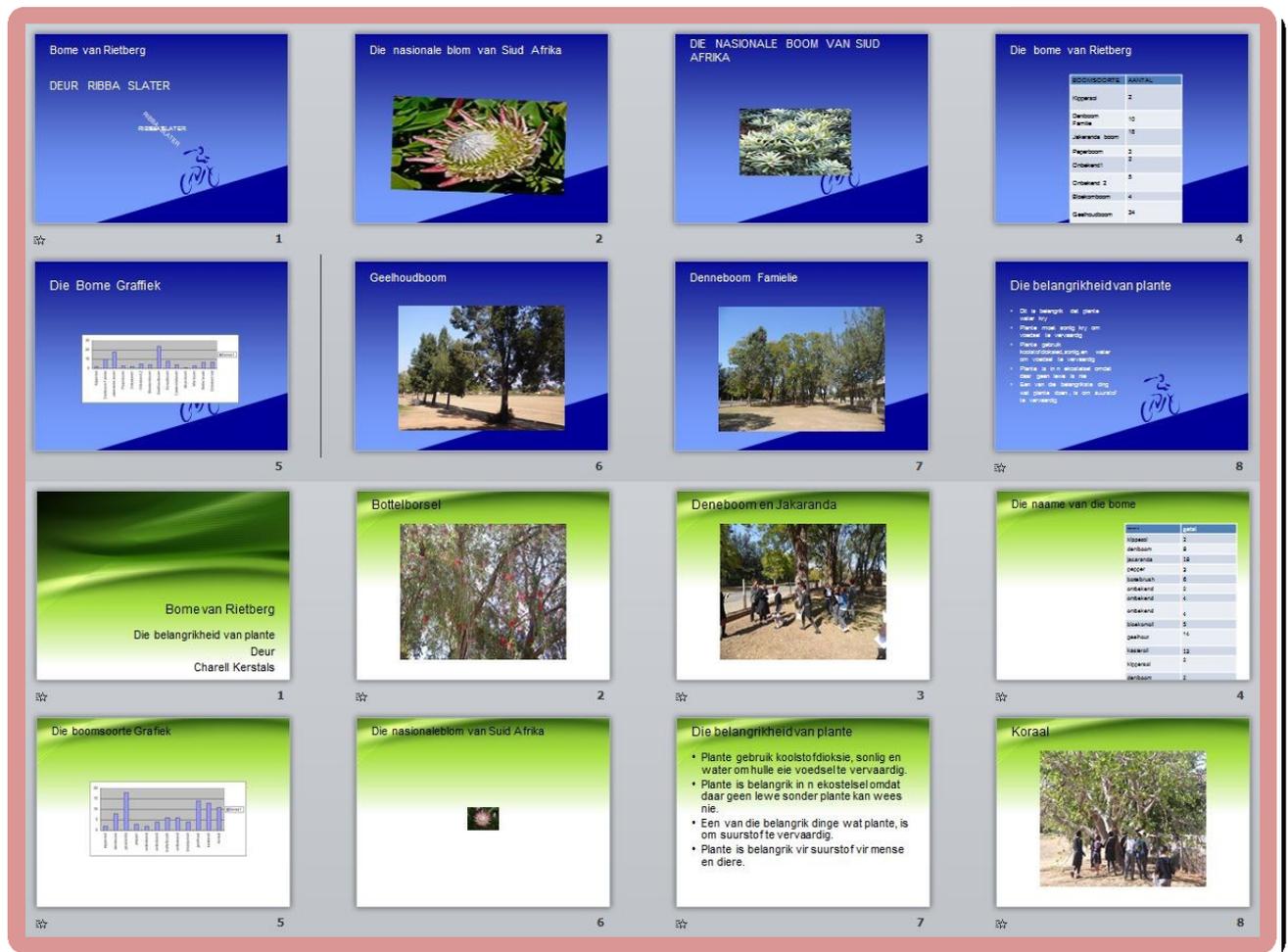


Fig. 2 shows the final presentations of some of the grade 6 learners.

Fig. 2 Slide presentations of two learners at Rietberg Primary School



1.2 Dr Jeff Ilsley's Virtual Science Classroom

Dr Jeff Ilsley continued his Skype lessons to Sandisulwazi High school teaching physical science to 12 learners (60% pass rate achieved).

2. 2015 Interventions

This year we continued with the projects and support activities of 2014 and added new projects. Training of learners and teachers continued at the primary schools as well as at Sandisulwazi High School. A new initiative was placing four NMMU PGCE (4th year) students at Sandisulwazi High School in Paterson for their teaching practice. On-going technical support in the form of computer maintenance has been provided to all the project schools.

2.1 Teacher and learner training.

After consultation with the two primary schools and Sandisulwazi high, it was decided that we should conduct targeted computer training for certain teachers in specific skills. Teachers at these schools have benefited from general skills training over the past few years. The teachers are now eager to acquire skills that will enable them to integrate these skills into their curriculum activities.

2.2 Rietberg Primary

We have worked with mathematics and science teachers. As the school has many digital resources, amongst others Cami Maths, Mathemagic as well as digital mathematics workbooks, the teachers are being trained in the use of data projectors so that these resources can be used effectively in their classroom. Teachers in other learning areas, especially language literacy, will be catered for at a later stage. New teachers that have not yet received general training will also be accommodated if time allows before the end of the year.

Learners from grades 5-7 continue to receive general computer skills training in time-slots accommodated in the school time table (as was the case in 2014).

2.3 La Trobe Primary

A specific request from the Foundation phase teachers to acquire more training in the use of the installed software means that two teachers will receive further training in the use of Mathemagic, Tux Math and Omnitux, with the objective of introducing foundation phase learners to computer skills as early as possible. As is the case at Rietberg Primary, training for learners of grade 5-7 will be continue at La Trobe Primary.

2.4 Sandisulwazi High

Most teachers have undergone basic computer skills training as part of the NMMU outreach program over the past few years. Most of the staff members are making use of the computer lab by referring learners to on-line resources as well as making use of the software that has been installed.

Two fairly young teachers are anchoring the mathematics and physical science learning areas. The training focus for those teachers will be mainly on how to fully utilize the various digital resources available at the school. The teachers in question already have a solid basic computer skills base and are able to guide learners in accessing the installed and on-line resources. Training will therefore focus on the effective use of the resources in the classroom during lesson delivery by the teachers as well as imparting those skills to their learners.

The computer lab is fully utilized by most of the 350 learners at the school. This lab is mainly used for on-line research purposes. Learners are accompanied by teachers who usually give guided instructions to access on-line resources. The lab is also used for maths revision by the grade 8 and 9 teacher after school hours using the Cami software and learners are also free to access the computer lab during breaks and afternoons.

2.5 Teaching Practice (PGCE) Students.

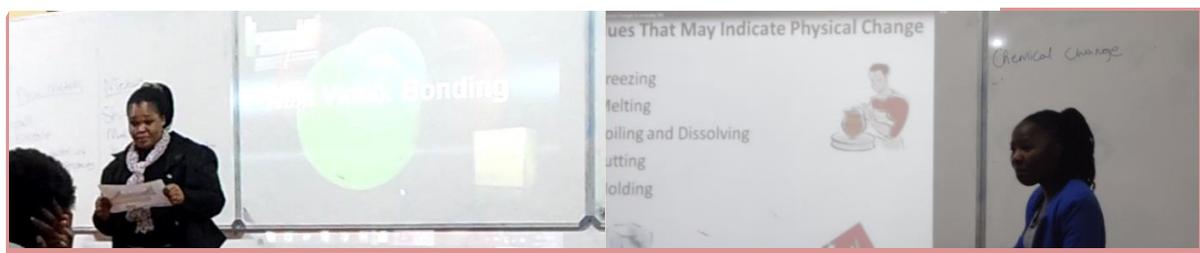
As noted earlier, four PGCE students have been assigned by the Faculty of Education to do their teaching practice modules at Sandisulwazi High. During April and May 2015 these students worked at the school for three days every week. They offer instruction in mathematics, physical science and natural science. These students form part of an innovative approach to teaching practice by the Education Faculty, one of the objectives of which is to develop teachers who are confident in the integrated use of ICT in the classroom.

The students have been introduced to the ICT resources at the school, most of which have been facilitated by the project. These resources include Cami Mathematics, Geogebra, PHet simulations, Khan Academy as well as the Siyavula digital textbooks; plus a range of ICT hardware such as desktop computers, laptops, data projectors, wireless presenters and an interactive whiteboard system. See Fig.3 below showing the students in action using ICT resources during class.

After a few days of observation the students were assigned active teaching duties working with learners from grades 8-11. They are mentored by Mr Preston Geswint as well as the teachers of mathematics and science. Apart from the on-site mentoring the students are mentored and assessed remotely by their respective lecturers at NMMU. This is done with the aid of the same video link used to transmit live lessons by Dr Ilsley.

So far the students have adapted well at the school and form an integral part of the teaching staff. They have successfully completed a two month stint and will return to the school during the second semester.

Fig. 3 Ms Vuyokazi Sifunzana and Ms Nomava Madlavu delivering science lessons



2.6 The promotion of Scientific Literacy

The positive effects of authentic discussion and dialogic approaches in classrooms have been shown to be most effective in terms of developing students reasoning skills and promoting scientific literacy. The use of computers can be used to help prepare pupils for thinking together and combining preparation for work together at the computer with the right kind of software can draw pupils into talking and learning together within the curriculum. As such, initial plans are afoot to integrate the promotion of dialogic approaches to foster scientific literacy, particularly when using the ICT resources available to the learners, in the schools in which we work.