

NMMU/Hermann Ohlthaver ICT intervention 2015

Report as at the end of September 2015



1. Overview of the period from June to September 2015.

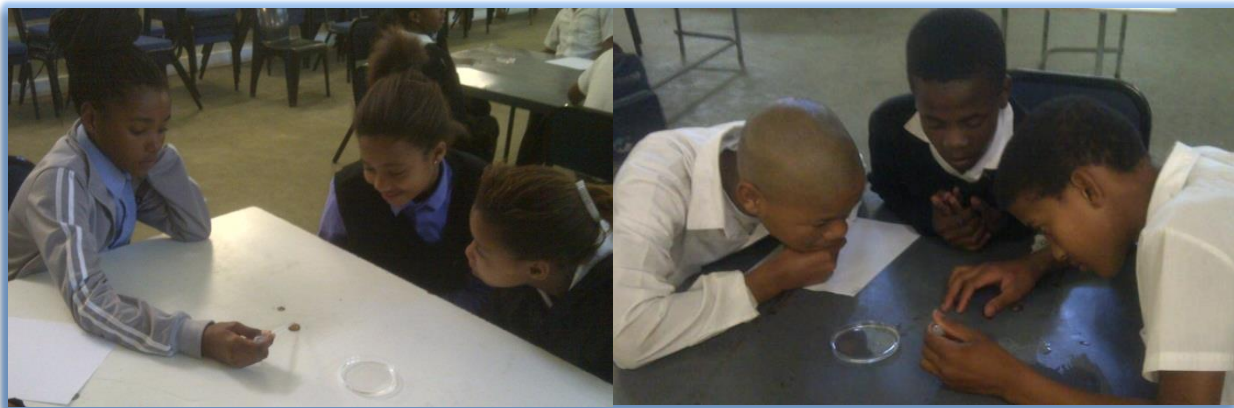
The training of teachers and learners at Rietberg and La Trobe Primary schools has continued as planned, as has physical science revision support for learners of Sandisulwazi High via video link. The four PGCE science and ICT students working at Sandisulwazi will conclude their teaching practice at the end of September 2015 and the Scientific Literacy and ICT research programme, which will run until the end of this year, has been launched at Rietberg Primary.

2. Teacher and learner training.

We are currently training teachers at Rietberg Primary in presentation skills and the use of the data projector to enable them to use the resources available at their school more effectively during lesson delivery. So far the teachers have responded positively to the training and have begun implementing their newly learned skills in the classroom. School management and the school principal in particular, are very supportive of the initiative and have committed themselves to acquiring more data projectors, whiteboards and screens for the school. All involved believe that the acquisition of presentation supporting hardware and software will enable teachers to promote more exciting learning experiences for their learners. Grade 5 learners at Rietberg have recently been introduced to the computer room and will join the grade 6 and 7 learners on the Scientific Literacy programme. In this programme they will be trained in the use of Cartoon Story Maker as a discussion and reporting tool for Scientific Literacy.

A negative issue to report is that there has been burglary at the school and four computers have been stolen. The school has removed all remaining computers to a safer location while they are reinforcing the security measures and, as such, our activities are temporarily on hold. Once the security upgrades are complete at the end of September we will assist the school reset their computer laboratory.

The Scientific Literacy project at Rietberg Primary aims at developing reasoning skills in learners via a process of *'exploratory talk'*. Using exploratory talk requires teaching the children to make their thinking explicit and argue points constructively. A series of scientific investigations provide the framework for discussions that take place. The school has been provided with science apparatus to enable the children to engage in scientific investigations facilitated by NMMU personnel assisted by the class teacher. Small groups of learners design and implement scientific investigations and discuss their findings. For comparison, some of the investigations are carried out in a standard 'hands-on' way, while others are carried out using computer hardware and software. The learners reasoning skills were tested using a validated international test out and these pre-intervention scores will be compared with the learners' scores at the end of the intervention.



Learners at Rietberg Primary investigating the cohesive properties of water as part of the Scientific Literacy intervention

3. PGCE Students at Sandisulwazi High

The tenure of the four NMMU students at Sandisulwazi High will come to an end during the last week of September. The students had six gruelling months spent away from home for three days each week of the school term. Reports from the school are that all four students made an impressive impact and were often called to act as full time teachers. Due to their efforts the syllabi for grades 8-11 (mathematics) and grades 10-11 (physical science) have been completed leaving only revision for the last quarter of the year.



PGCE Students L to R: Melikhaya Kepu, Nomava Mlandu, Zolani Mnyaka and Vuyokazi Sifunzana



PGCE students interacting with the learners of Sandisulwazi

During their stay at the school the students were mentored on a regular basis in all forms of teaching practise with particular emphasis on effectively using the technologies available at the school. They were also tasked with organising a programme to train learners on the effective use of all the available digital resources. This they have done with great commitment. Regular after hours sessions were held by the PGCE students, who delivered an array of stimulating experiences to the learners of Sandisulwazi High including using digital learning resources such as CAMI Maths, Khan Academy online videos, YouTube, etc.

Nomava Mlandu said the following about her teaching practice experience at Sandisulwazi:



"I learned so much about teaching and dealing with students. I am able to present lessons with PowerPoint presentation, show students you-tube videos during my lesson using a projector. In science I am able to show them other experiments on you-tube videos when other equipment is not available. And also when there is something I do not understand in a lesson I am able to use internet and search for more information because the school has a Wi-Fi. I have

experienced that students do not want to be taught the way old teachers do, where they will only listen to the teacher until the end of the lesson. They want to be engaged, they want to participate and apply what you have taught them.

That is why the school needs to have resources. I have also learned that in science if there is no laboratory at school you can bring the laboratory in class, meaning you can do experiments in a classroom as long as you are going to make sure about safety, you do not have to use chemicals when

doing an experiment. You can use the things that are available in their homes, it is important to use real-world example so that they all understand. Thank you Paterson Project for the brilliant opportunity.”

Zolani Mnyaka reported.



“In the first semester of teaching experience, I got to work with young minds who were motivated to learn. Every day was different, what was encouraging was that the school had ICT (Technological equipment) which helped to make a lesson much easier for the learners to understand. I believe that a learner is able to learn when there are able to see what you are talking about as a teacher by a naked eye. The school having ICT equipment such as projectors, helped in that you were able to project your lesson in slides. We were able to download videos from You Tube such as Khan Academy, they also had Cami maths app which helped learners in mathematics which I believe was fantastic considering the type of community we were in. I was helped by learners who were motivated to learn. They were so motivated that they would want have extra classes after the end of school day. Also the teachers were very welcoming. They helped were they had to help, it was a whole cooperation from the trainees and the mentors.”

4. Video-Link lessons: Physical Science Revision

During May, June, August and September a total of 13 physical science revision sessions, averaging 2 hours in duration, were held with the Grade 12 Physical Science learners at Sandisulwazi High School. These classes were conducted by a retired expert teacher from Port Elizabeth via the internet, using the Microsoft Lync programme operating via the NMMU server. The main difficulty experienced was that the link was lost at times during a session, which disrupted continuity significantly. We changed service providers in an attempt to improve the situation but it would appear that the signal in the Paterson area is extremely unreliable, irrespective of the service provider used. Nevertheless, all participants have been notably resilient and accepting of this unfortunate situation. The ‘official’ science teacher is qualified in mathematics but has little or no science experience and is therefore most appreciative of the assistance provided.

The learners remained keen, cooperative and grateful, and they appear to have benefited from the lessons that were structured around questions and topics from previous National examination papers, One topic, e.g. electrochemistry, photoelectric effect, etc., was dealt with in each session and served as the vehicle for developing the necessary conceptual understanding. The topics covered in any particular term were those that are specified in the CAPS curriculum.

At this stage a final set of revision sessions is planned for the run-up to the final examinations, with some additional sessions during the examination period as has been done in the June and September examinations.

5. Number of participants

Rietberg Primary, Kirkwood

Teachers:	7
Grade 5 learners:	120
Grade 6 learners:	80
Grade 7 learners:	80

Sandisulwazi High School, Paterson

Teachers:	1
NMMU students:	4
Grade 8 learners:	70
Grade 9 learners:	70
Grade 10 learners:	60
Grade 11 learners:	40
Grade 12 learners	3

Totals:

Teachers	8
NMMU Students:	4
Learners:	523