

CONNECTION TO
OPPORTUNITY

Hands-on

Learning from our implementing partners

Midlands Community College

Giving second chances: Midlands Community College's Maths, Science, Technology `Recovery' Project

The Midlands Community College (MCC) is an educational and training college that offers access to enriching and life-changing educational opportunities and skills training of the highest standard for adults, youth and very young children in our communities, who might otherwise not have the opportunity to realise their full potential. One of our flagship programmes is focused on the development of Maths, Science and Technology with the aim of enabling learners to access tertiary studies in these fields. The severe challenges facing the country in terms of Maths and Science are well known. The average national matric results in Maths and Science over the last three years have been around 30%.¹ In KwaZulu-Natal where we work, 60.5% of candidates who took Maths in 2011 failed, 52.4% failed in 2010 and 55.4% in 2009. The numbers of learners taking Maths and Science continues to drop. 300 000 took Maths in 2008 compared to 225 000 in 2011. Nearly 40 000 fewer matriculants wrote Physical Science in 2011 than in 2009. This is largely due to under-qualified Mathematics and Physical Science educators and a lack of facilities and resources for effective teaching and learning. Our Maths, Science, Technology `Recovery' programme was introduced in 1999. Recently we introduced a Saturday School and Holiday School for 140 top learners from 10 schools in the New Hanover area in partnership with the Department of Education and CASME- an organization which supports Maths and Science educators. The Saturday School assists learners in grades 10, 11 and 12 and our Mobile Laboratory provides the equipment and technical expertise to cover the relevant practical science experiments

for each grade. The grade 11 and 12s come to our campus for the residential Holiday School where expert tuition in Maths, Science and English is provided during the day, with homework sessions and study skills in the evenings. It is the grade 12 MST `Recovery' Project which is described in this article.

Our Objectives

The Maths, Science, Technology (MST) `Recovery' programme works with 60 former grade 12 learners (per year) from poorly resourced schools, who demonstrate potential, but whose matric results do not qualify them to access tertiary education. The objectives and expected outcomes of the programme are as follows:

- To provide an opportunity for these learners to improve their Grade 12 results in Mathematics and Physical Science, as well as in one other subject (either English or Life Sciences) to the extent that their upgraded NCS `statement of results' reflects sufficient points to register for Maths and Science related degrees or diplomas at tertiary institutions of their choice the following year.
- To ensure that they have the computer skills needed for studying at tertiary level.
- To produce students who have learnt how to learn, have self-confidence, determination and the discipline to succeed at tertiary level.
- To assist them with on-line applications to tertiary institutions and applications for bursaries through our improved networking and relationships with organisations such

Learning Brief 40

¹ Umalusi Report, 2011.



as REAP, the Youth Tertiary Education Access programme and certain companies, trusts and foundations that offer bursaries for tertiary studies.

- To see at least 80% of the group enrol for appropriate courses / diplomas / degrees taking into account both their particular interests and their competency levels based on the Career Guidance counsellor's mentorship and work done with them over the year.

Our implementation strategy

Selection process

Applications are accepted from over 350 learners who apply each year to register for the programme in January. The top 60 learners are selected, based on the results achieved in all subjects the previous year. Our selection criteria are:

- Learners must have achieved a minimum of 20 points based on marks for each subject written, and an overall Matric pass.
- They also need to have passed Grade 12 Maths and Science. We give preference to learners with higher Maths and Science results, as the greatest improvements have been seen over the years, in those that enter the programme with relatively good marks in these two subjects.
- Preference is given to learners who attended previously disadvantaged schools.

Tuition and Term Dates

Most of our learners come from peri-urban or rural areas where unemployment is high and families cannot afford fees for further studies after grade 12. Each is asked to contribute R5 000 for the year, which includes all tuition, text books and learner materials, as well as board and lodging for four full terms. Most learners however still struggle to pay the required amount and we assist those who have not been able to raise the full fees by the start of the third term.

Classes begin in the first week of February each year. Term dates are in line with national requirements in terms of constituting a full academic year. Learners board in simply furnished dormitories and apart from holidays, stay on campus till the end of exams

in November. Learners are divided into two groups of 30 learners and attend classes from 08h30 each morning until 16h00 in the afternoon.

Career Guidance

Learners are individually mentored throughout the year and given career advice relevant to their interests and aspirations. Guest speakers from the various tertiary institutions are invited to give talks to the learners on a variety of subjects each year. We have good relationships with various funders who sponsor tertiary bursaries, such as REAP, HCI Foundation, Shell SA, and the Sugar Industry Trust Fund for Education (SITFE) and are therefore able to assist students in sourcing financial assistance.

Monitoring systems and strategies

Academic progress: Educators submit learner test results to the Director on a regular basis. June exam results are analysed and learners who are not performing well receive counselling and advice. Evaluation of the success of the project is based on the final results obtained in the NSC examinations and the number of learners who gain places at tertiary institutions for the degrees/diplomas for which they apply.

Social: A Student Representative Committee meets twice a month throughout the year with the head of the staff social committee. Any problems being experienced by the student body are discussed allowing issues to be addressed and dealt with speedily and in a supportive manner. The learners almost without exception show increased levels of self-confidence.

Completing the story: Up until now we have not tracked our MST alumni once they have entered tertiary institutions. This we need to do in order



MST Students



‘to complete our story’. With the advent and popularity of social media platforms now available, it is easier to follow our students’ progress, and for them to keep in touch with us. We have a possible funder who is prepared to support research by way of a longitudinal study to track the progress of our learners through to graduation and beyond over the coming years.

Impact

The MST Recovery project has been running successfully for 13 years and learners participating in the project have consistently achieved a 100% pass rate. Over 80% of our learners are accepted to study at tertiary level every year. Some of our recent statistics are as follows:

Of the 120 learners who studied in 2010/11:

- 104 were accepted to study further
- 8 found employment
- 8 are at home

Of the 104 students who were accepted to study, 74% are studying in KwaZulu-Natal and 26% are studying outside of the province. Of the 104 students accepted to study, 65% are studying towards degrees and 35% are studying towards diplomas.

The 2012 group was one of the weakest groups (on entry) that the College has had for a number of years and many learners registered with Level 1 Maths and Science results (i.e. achievement levels between 20 – 29%). Despite this the learners were able to improve their symbols sufficiently for 80% to be accepted to study at tertiary level this year!

The break-down is as follows:

- 48 learners have been accepted to study at various tertiary institutions around the country
- 2 learners are working, one as a laboratory technician at the College
- 10 learners are looking for employment so that they can save to study next year

Implications for possible replication of the programme in similar contexts

In reflecting on this and similar programmes, we have learned the following:

The importance of proficiency in English as a success indicator for entry into the job market²

Learners come in with relatively high marks for English (First Additional Language) but are not confident in speaking English, and are not proficient in the written form. We also see poor understanding of English detracting from their achievement in physical science³. By giving more time to discussion, debates and individual class presentations, oral and written communication skills can be enhanced. The option to re-write English (FAL) as a matric subject could possibly be replaced with a more flexible communicative style course, which includes ‘business writing’ as the written language component. This would be compulsory for all sixty learners. We are researching courses on offer which preferably carry some form of accreditation.

Enrichment modules are vital

Enrichment modules that encourage self-confidence, creative and critical thinking, problem-solving and effective study methods, have had a positive effect on the students. An extra ‘Leadership week’ with a variety of workshops during the July holidays has also strengthened the programme.

Advantages of a residential model

We have a large spacious campus which is a pleasant, safe environment, conducive to learning. Apart from the dormitory accommodation for the MST students, there are also guest houses for learners who come for our short courses in ECD training and skills courses. The fact that our students see a place where adult learners and young people come to improve their personal knowledge and gain skills, is an advantage and encourages an understanding of the notion of ‘life-long learning’. All learners on the campus share the dining facilities, so there is a lovely mix of diverse age groups and interests among all who access our learning programmes.

A compulsory computer course

² Casale, D. & D. Posel. 2012. *Language proficiency, language policy and earnings in South Africa*. Paper presented at ‘Towards Carnegie’ conference at the University of Cape Town, September 2012.

³ Margaret Keeton. *Analysis of Grade 12 results in Maths and Science for 2012*, available at: www.tshikululu.org



No student can be expected to cope at tertiary level without having been exposed to computers at school. This component is expensive, but essential. All our learners do four modules of the START ICDL (International Computer Driver's Licence) course.

Internet access is crucial

Students have access to computer facilities for the downloading of career-related information, tertiary opportunities and bursary application forms. The lack of such opportunity is a great weakness that we perceive from our visits to rural schools with our mobile science laboratory.

Conclusion

The MST Recovery project now seems almost to market itself. Word of mouth is powerful, and news has spread that the project is one of the most successful and affordable upgrading programmes in the country. It is advertised directly to the Grade 12 learners at our 45 Mobile Laboratory project schools in the rural areas where there is the greatest need for access to affordable further education. Past students when assessing the project in feedback questionnaires, most often make reference to the College as the 'place of second chances' as it provides a sponsored, 'once-in-a-life-time' opportunity for those with potential to upgrade their marks sufficiently to gain access to tertiary education.



A mediocre matric pass is often the end of the road in terms of further learning. MCC provides a safe learning environment. The structured time-table and

the disciplined work ethic enables them to grow in self-confidence and teaches them how to study and how to prepare themselves effectively for the

future. An exciting development for the future, based on the success of the MST programme and one that has been a goal in our strategic plan for the last three years, is about to become a reality. Funding has been secured to enlarge the programme to accommodate 30 more learners to upgrade Maths, Accountancy and English in 2014. The aim is to boost the number of grade 12s who have a good grounding and good enough matric pass to enter the commercial and finance fields. There is a real need to prepare young people to enter the financial services sector and this will enable us to begin preparing more young people for this. We have many success stories of students who have achieved remarkably over the years, many of them putting their successful performance down to the grounding received in their year at the Midlands Community College.

This learning brief tells of the hands-on experience of:



Midlands Community College

Postal Address:

PO Box 40
Nottingham Road, KZN

Tel: +27 33 266 6588

Fax: +27 33 266 6556

Cell: +27 83 448 7783

Web: www.midlandscommunitycollege.co.za