



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

Keynote Address by the Minister of Basic Education, Mrs Angie Motshekga, MP, at the 20th Sasol Techno X 2022 held Virtually

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Programme Director

Bonakele Majuba: MEC for Education in Mpumalanga

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Dr Sizwe Nxasana: Founder of Future Nation Schools

Ms Mankone Ntsaba: Kagiso Trust Chairperson of the Board

Ms Mankodi Moitse: Kagiso Trust CEO

Dr Thulani Dlamini: CSIR CEO

Professor Fulufhelo Nelwamondo: NRF CEO

Mr Godwin Khosa: NECT CEO

Mr Jacob Mbele: Department of Minerals and Energy DG

Mr Isaac Ramovha: Department of Science & Innovation

Distinguished Guests

Members of the Media

Ladies and Gentlemen

It is indeed an honour for me to address this very unique career guidance exhibition called Sasol Techno X.

The first Sasol Techno X was held in Sasolburg in 2001.

Thus, this year Sasol celebrates 20 years of hosting Techno X, one of South Africa's biggest career guidance exhibitions.

Over 480 000 people have visited Sasol Techno X since 2001.

Let's toast to Sasol Techno X!!!!

Since then, it has become a platform where Grade seven – 12 learners engage with real-world applications of science in a way that creates interest and captivates the imagination of learners.

The exhibition further provides learners with opportunities to get information about careers, learnerships, and student funding opportunities in STEAMI – related fields.

It focuses on skills of the future, entrepreneurship, profiling of STEAMI careers, offers youth a platform to engage on socio-economic issues that affect them, competitions and fun games.

For the uninitiated STEAMI – related fields mean careers in Science, Technology, Engineering, Arts, Mathematics and Innovation.

Centuries ago, people who could read and write were in a position of power and controlled both the present and the future.

Now, when our world relies on technology, people with tech-related skills have more options to be successful and shape their future instead of being passive consumers of technology.

STEM fields desperately need more girls and women, and the statistics prove it!

Women make up half of all tech users and make 85% of shopping decisions.

It is estimated that by 2025, as many as 80 per cent of all future jobs will require a Science, Technology, Engineering and Mathematics (STEM) education.

Yet, globally, only 14 per cent of the STEM workforce consists of females and only seven per cent in South Africa.

At the same time, according to the research conducted by Accenture and Girls Who Code, the number of women in the STEM field has decreased since the 1990s.

If we do not reverse this trend, the number of female computer scientists will fall from 24% to 22% by 2025.

For various reasons, teenage girls, even those who like maths in school, become discouraged from pursuing education and careers in technology.

This career exhibition aims to ignite a fire inside each one of you.

It is to say, you got this. You, too, as a girl child, can do this.

Don't be discouraged.

With this in mind, Government and private sector firms, including Sasol, are working on plans to increase the profile of STEM fields among women.

The 2022 Sasol Techno X theme is "Create. Explore. Innovate."

Hence, the exhibition is going virtual for the first time this year and focuses explicitly on the endless possibilities presented by technology.

This exhibition is a testament to the changing nature of the world of work, the imminence of the careers of the future, renewable energy and life in general.

This virtual initiative is a pilot that will accelerate the use of technology for educational activities and open up endless possibilities in homes, classrooms, and workplace offices globally.

As we know, Sasol describes its life purpose as “Innovating for a Better World.”

At the outset, I congratulate Sasol for sustaining this excellent initiative for a record-breaking 20 years.

We have a collective responsibility as social partners to harness the power of basic education to change lives.

Only education can contribute significantly to lessening inequality and ending poverty.

As we know, poverty levels are growing and continue to bear an imprint of a black woman.

Our economy has stagnated in recent times, mainly during the years of State Capture marked by political uncertainty, policy paralysis and low tax morality, and rising corruption and sleaze.

As we sit here today, we know that most of our youth are unemployed and unskilled.

According to Stats SA, youth unemployment in South Africa is at a record 66.5%.

His Excellency President Cyril Ramaphosa is on record saying, no society can expect to grow or thrive when the vast majority of its young people are out of work.

More depressing are the numbers of young people 37% to be precise, between the ages of 15 to 24 who are Not in Employment, Education and Training (NEET).

Statistics South Africa describes this group as “disengaged from the labour market” and defines them as “young people [who] are also not building on their skills base through education and training.”

It is within this context that Sasol Techno X is held to ensure that never again do our learners become unemployable or unskilled.

Career exhibitions, by their nature, also motivate learners to learn further and be skilled in their career of choice.

Of course, this is apart from a live demonstration of what an engineer or boilermaker does.

Programme director, as basic education, although coming from behind, we are now seized with rolling out the skills for a changing world in ordinary public schools.

I am happy to report that Robotics and Coding are now part of our curriculum oeuvre.

We know the value of digital skills for the future generation of tech creators and e-commerce careers.

Therefore, I am happy to report that the development of the Grades R–9 Coding and Robotics curriculum by a team of experts was concluded in January 2020.

The Coding and Robotics curriculum is intended to ensure that learners leave Grade nine having acquired the necessary digital skills for the changing world and to adequately face the Fourth Industrial Revolution (4IR).

We gazetted the draft CAPS for Coding and Robotics Grade R-9 for public comment on 19th March 2021.

These have simultaneously been submitted to Umalusi, the Council for Quality Assurance in General and Further Education and Training for quality assurance.

Project Management Teams have been established in all nine provinces to oversee the introduction of the new curriculum.

A National Training Team has been orientated on the Grade R-3 and Grade 7 Curriculum.

Facilitators' and participants' orientation manuals have been developed.

Learner and Teacher resources have been developed and uploaded on the Department of Basic Education (DBE) Moodle Platform.

Programme director, I am happy to announce that Sasol has partnered with us to pilot the Coding and Robotics curriculum in 110 project schools across nine provinces.

The pilot will benefit teachers from 1 200 schools and 60 000 Grade R-3 and Grade 7 learners.

The European Union (EU) funding has been made available for the pilot project.

Coding and Robotics lesson plans for Grades R-3 and Grade 7 have been provided to all the piloting schools.

A total of 728 teachers in Grades 4-6 and 8 were orientated on the Coding and Robotics curriculum.

A total of 896 Foundation Phase teachers are attending the Coding and Robotics content training conducted by the University of South Africa (UNISA).

We have visited 26 schools to monitor the Coding and Robotics pilot project implementation.

Lessons from the ground make it clear that we need to provide infrastructure and training faster to many more teachers in these early stages if we are to make a difference.

Programme director, as part of our policy initiative to modernise our curriculum offering for 21st-century learners, we have developed the Framework for Vocational and Occupational or the Three Stream Model.

The Three Streams Model offers the Technical Vocational and Technical Occupational pathways added to the Academic pathway.

The curriculum shift towards the Three Stream Model owes its birth to the 2011 National Development Plan (NDP) policy's call for differentiated pathways in the basic education sector.

The NDP says the different parts of the education system should allow learners to take different pathways that offer high-quality learning opportunities.

The introduction of the Three Streams Model has led to a plan to incrementally establish Focus Schools (Schools of Specialisation), including Maths-Science and Technology Schools, Engineering, and Art Schools.

The Model is gaining momentum if one looks at learners' various national participation rates since its introduction in multiple subjects, including Civil Technology, Electrical Technology, and Mechanical Technology.

We have since developed a Three Stream Model Master Plan with 10 key points, and these are:

- Research to strengthen conceptualisation and rollout of the Three Stream Model;
- Technical Advisory Support in areas of need;
- Vocationally Oriented Curriculum for the General Education and Training (GET) Phase;
- Vocational, Technical and Occupational Curriculum for the Further Education and Training (FET) Phase;
- General Education Certificate (GEC) Dashboard and Plan;
- Teacher training and development;
- Advocacy, Change Management and Communication;
- Building partnerships;
- HR and Funding Mobilisation;
- Piloting the Three Stream Model (Vocational and Occupational Streams) in Schools.

We have established partnerships with the various Sector Education and Training Authorities (SETAs).

Other Partnerships include Ford SA, which donated 240 engines, and UNICEF provides technical input into the Coding and Robotics curriculum.

The Sasol Foundation is helping in the Technical Mathematics and Technical Sciences space.

All Mobile Network Operators are assisting with connectivity issues.

The European Union supports the development of sector policies and reforms, improving governance and service delivery as part of the Education for Employability (E4E) Project.

The grand idea is to offer school technical subjects that lead to apprenticeship, some competence in a specific area before looking for learnerships, post-school education and the world of work.

One can say the Three Stream Model is a silver bullet to the dearth of skills in our country.

We need more technical support, teacher training to offer our Three Stream Model curriculum and the actual investment in rolling out the Focus Schools and Schools of Specialisation.

We will finalise level 1-4 Curricula for Special Schools and revisit the Mathematics & Science Pedagogic Content requirements in Vocational and Occupational subjects.

Programme director, the Covid-19 hurricane taught me what should have been evident by now: Information and Communications Technology (ICTs) is a game changer.

At this exhibition, I present a truncated progress report on the rollout of ICTs in the sector.

From the outset, we resolved that implementing ICT in the basic education sector required a collaborative effort between Government and the private sector.

To date, 214 special schools were provided with a school-based solution consisting of assistive devices, ICT equipment, and connectivity through the Universal Service Access Obligations initiative.

The number of schools ICT-connected schools since 2019 has increased significantly from 68,96% to 74.4% in 2021.

In recent years we have launched various initiatives in the ICT space for basic education.

In March this year, we launched with fanfare the Vodacom Virtual Classroom.

The Virtual Classroom will make a difference to teachers and learners in the selected schools by improving connectivity and making gadgets accessible, thus enhancing computing skills and appreciating the power of the ICTs.

Secondly, this solution in secondary schools will allow teachers to transform their pedagogical practices by providing them with

improved educational content and more effective teaching and learning methods.

In October last year, we launched the MTN Online School.

The Online School solution was developed in partnership with the Department of Basic Education (DBE) and the National Education Collaboration Trust (NECT).

This new innovation allows us to have all learning resources in one portal designed for learners and teachers with our Department and MTN Foundation experts.

The Vodacom Virtual Classroom and MTN Online School solution will improve the learning process by providing more interactive educational materials that increase learner motivation and facilitate the easy acquisition of basic skills in various subjects.

For these virtual platforms to make the desired impact, we must ramp up the ICT professional development for all teachers.

As a country, we have made a substantial push towards digitisation and technology in South Africa's education sector in recent years.

In his 2019 February State of the Nation address President Cyril Ramaphosa said that over the next six years, Government will provide every school child in South Africa with digital workbooks and textbooks on a tablet device.

We are set to meet the deadline by 2025.

Furthermore, the President said we must also expand the training of both educators and learners to ‘respond to emerging technologies’ including the Internet of things, coding, robotics and artificial intelligence.

Our future as a people hinges on accelerated performance by our learners in Science, Technology, Engineering and Mathematics, and this career exhibition is critical in igniting interest.

As we do so, we do not neglect the foundation of learning: literacy and numeracy.

However, I implore all young people to grab opportunities in these STEAMI – related fields and build the South Africa of our dreams.

We again thank Sasol for investing in the future of our country, the most precious assets of them all: young minds.

I thank you.