

# Changing lives, one science experiment at a time

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*MTN scholar Varaidzo Audrey Mureriwa has set out to address two of South Africa's major challenges: youth unemployment and skills shortages, and her organisation is doing it in a way that brings a sparkle to the eyes of learners in historically disadvantaged communities.*

Varaidzo Audrey Mureriwa first came face-to-face with one of South Africa's most peculiar characteristics: a dual burden of high unemployment on the one hand and a lack of skilled people to employ on the other, when working as a newly appointed manager in Accenture

"We didn't have the skills to staff some of our projects and had to source internationally," she explains. At the same time, volunteering on weekends to help teach unemployed youth life and tech skills as part of an Accenture outreach programme, Mureriwa was all too aware of the country's chronic high youth unemployment.

"I saw the massive mismatch between youth unemployment and the skills shortage - particularly in Science, Technology, Engineering and Mathematics (STEM)," she says.

It is estimated that around 80% of the skills shortages in South Africa are in STEM, "And it's not only in high tech skills such as engineering. We don't even have enough artisans, as you need maths to get into a technical college. At the same time, over 70% of SA's unemployed are between the ages of 14 and 35," she says.

Mureriwa decided to do something about it. In 2013, she co-founded the [P-STEM Foundation](#), a non-profit organisation that advances STEM education to address the critical STEM skills shortage in SA while also tackling youth unemployment.

In laying the groundwork for the initiative, Mureriwa researched STEM education, mainly in the US and how it could be applied in SA. She also attended a conference in Salzburg on a research-based approach to measure efficiency of STEM education. This approach became the basis of P-STEM's methodology.

The Foundation seeks to spark learners' interest in STEM, and change the unjustified perception that careers in STEM are exclusive. P-STEM gives presentations in township schools on STEM and the exciting career opportunities they offer. This is followed by a community day science and tech fair featuring fun experiments, demonstrations, and scientists engaging with learners about what scientific work involves.

"These events make STEM fun and you can see the kid's eyes light up as they become interested," she comments.

P-STEM also offers free weekly after-school programmes that build learners' skills and confidence in STEM subjects. These sessions are not built on a tutor model, but on a self-organised learning approach around scientific principles. "For example, we ask a question, and the learners formulate a hypothesis, design an experiment, collect data, interpret data and then argue their case. Only at the end will the facilitator tell them the answer," she explains. "We just give them the framework. We show them what it is like to be a scientist or an engineer, and allow them to connect theory to the real world. The kids enjoy it so much, sometimes they don't want to leave when the class is over!"

P-STEM then monitors, evaluates and supports learners up until matric so they can access studies or work opportunities. "In my work with youth while volunteering with Accenture, I discovered that learners often lacked advice on how to transition from school to the real world," she comments.

Mureriwa is currently finishing up an MPhil in Inclusive Innovation at the UCT Graduate School of Business, through a

scholarship from the MTN Solution Space. The degree specifically challenges its participants to work on the development of novel and sustainable solutions for social challenges and gives them the space and resources to do so. "The MPhil was a perfect match for me," she says. "I knew if I could get that scholarship I could do further qualified research around STEM education, and learn what works and what doesn't and plough that back into the organisation."

In addition to running P-STEM, Mureriwa is the delivery and operations director at Buzitech Innovations, a management and technology consulting firm. She holds a degree in Information Systems from Edith Cowan University in Perth, Western Australia, where she studied after finishing high school in Zimbabwe.

While she is proud of her achievements, Mureriwa is quick to point out that she is not doing all of this alone and credits her team, the volunteers and the Foundation's partners for their efforts.

One of P-STEM's main challenges is funding, and Mureriwa is working on setting up new funding models and revenue streams. "Up until now we've been based in historically disadvantaged communities, but these skills are needed in more affluent communities too. We've launched paid holiday programmes in these communities and we can use the income from this to fund our other non-paid projects and future expansion."

It may be early days yet, but P-STEM is transforming lives one science experiment at a time, says Mureriwa, and she is proud of this and the partnerships built with communities. "As John Dewey the American philosopher, psychologist, and educational reformer says: education is not for life it is life. We are giving these young people the means to make something of their lives," she says.

[READ MORE](#) to learn about the Solution Space scholarship, important dates and selection criteria or email [mtnscholarships@gsb.uct.ac.za](mailto:mtnscholarships@gsb.uct.ac.za).

*P-STEM currently runs programmes in Kwa-Zulu Natal, Gauteng, North West and Limpopo. For more information or to get involved please contact the [P-STEM Foundation](#).*

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