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8 October 2026

UCT unveils isiXhosa mathematics glossary as part of its multilingualism mission

Collaborating to bolster multilingualism at UCT Photo: Lerato Maduna

As part of its mission to bolster multilingualism and enable students to learn academic terminologies in their mother tongue, the University of Cape Town (UCT) recently launched an isiXhosa glossary for first-year mathematics students.

The glossary is the product of a year-long collaboration between the Department of Mathematics and Applied Mathematics, the Academic Development Programme and the Multilingualism Education Project (MEP), which sits in UCT's Centre for Higher Education Development (CHED).

Explaining how a glossary comes into being at UCT, Dr Nolubabalo Tyam, a lecturer at the MEP, said work begins in the department, which must "harvest" at least 250 terms, from its discipline; "those concepts with definitions, so that the student can understand the concept clearly".

Once the terms are identified, MEP then brings together subject specialists and language experts, who workshop each term. The aim is to coin new isiXhosa terms, transliterating only where a new term would lose the meaning. The list then goes to the Pan South African Language Board (PanSALB) for verification and authentication before returning to UCT for its launch. "We cannot do it alone," Tyam said.

Oliver Maasdorp, chief language practitioner for Afrikaans at PanSALB, explained that the board, a constitutional body, verifies such terminology through the committees of its national language bodies, whose members must declare any conflict of interest.

Policy in action

Professor Brandon Collier-Reed, UCT's Deputy Vice-Chancellor for Teaching and Learning, who unveiled the glossary, had been through the same process in the Department of Mechanical Engineering and has used the resulting glossaries in his own classes. What struck him was its rigour.

He linked it to UCT's language policy and implementation framework, approved in December 2024, which commits the university to using isiXhosa and Afrikaans alongside English across all areas of university life and to ensuring that language is not a barrier to participation.

The glossary, he said, represents what becomes possible through policy, expertise, collaboration and institutional commitment, a step towards "a more multilingual, inclusive and accessible university".

Mishka Reddy and Corné Oosthuizen from the Centre for Innovation in Learning and Teaching (CILT) described a workstream exploring how digital tools and artificial intelligence could support multilingual teaching. The team is evaluating a chatbot for multilingual teaching with a diverse group of students and is running workshops with tutors who already code-switch and translanguage in their classrooms.

Lecture recordings are increasingly being transcribed as well. According to the figures presented, about 7% were transcribed in 2024, about 24% in 2025 and 30% so far this year, with a target of 96–98%. The team is also researching how those transcripts might be translated using large language models.

A personal stake

Rorisang Matlaila, a tutor in the Department of Mathematics and Applied Mathematics, said for his first four years of primary school, he learned mathematics in his home language. The experience taught him that "the language that one speaks on a daily basis need not be a barrier". Contributing to the glossary "meant a lot to me … also on a personal level".

He read a message from two colleagues who led the project but could not attend: Associate Professor Kate le Roux of the Academic Development Programme and Dr Álvaro de la Cruz-Dombriz. Drawing on the Martinican writer Édouard Glissant, they described the colonial language as a single, "totalising" and "hierarchical" root, and set against it a web of languages that need and extend one another.

From awareness to belonging

As the launch was on 23 September, which is International Day of Sign Languages, MEP Director and PanSALB Chair, Professor Lolie Makhubu-Badenhorst started the event by leading the audience through the South African Sign Language (SASL) alphabet; while MEP's Zukiswa Zono spoke on fostering DEAF inclusion at UCT.

SASL is now an official language, Zono noted, and much effort goes into raising awareness. "How does awareness then become inclusion?" Her answer moved in steps: translation and interpreting give access; access makes participation possible; participation brings belonging.

Makhubu-Badenhorst said UCT already provides SASL interpreters and real-time transcription through its Disability Service, where trained student volunteers transcribe lectures live. Graduation ceremonies are interpreted, and information for prospective students on UCT's website is now available in SASL. But interpreters should not be reserved for major events. DEAF people should have a say in decisions that affect them, and their inclusion should become ordinary.

"Our task is not simply to build bridges," she said. "It is to ensure that everyone has a place on the bridge."

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