

UP Pre-University Academy, Hong Kong Polytechnic University teach drone coding to Mamelodi learners

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The University of Pretoria's (UP) Pre-University Academy (PUA) has been collaborating with the Hong Kong Polytechnic University (HKPU) to teach learners from Mamelodi, Pretoria, how to code drones.

The 44 learners from the UP PUA were part of a project initiated in collaboration with the Department of Service Learning at the Hong Kong Polytechnic University. During the programme, 40 HKPU students presented virtual classes on how to code a drone to secondary school learners from Mamelodi. UP students Bryce van de Kraats, Albert Jere, Henry Mbewe, Jonathan Tribelhorn, Kagiso Seroto, and Sean Spijkers volunteered to assist the learners in a more hands-on way in Pretoria.

Dr Martina Jordaan, head of Community Engagement Research and Postgraduate Studies at [UP's Mamelodi Campus](#), said the project was initiated by HKPU but is a part of an ongoing collaboration between the institution and UP.



UP student Kagiso Seroto and Mamelodi learner, Bradley Mashonga testing their drone.

“The project ran over five days, during which the learners were introduced to various aspects of artificial intelligence,” Dr Jordaan says. “They learned how to code a drone using the Mind+ software. On the last day, the learners had to fly their drones on a prescribed route and present on artificial intelligence (AI).”

Feedback from the learners and the engineering students showcased just how much of an impact the project had on them:

Tshepang Moja (Grade 9) from Ribane Laka Secondary School said, “I learned how AI helped in society. The project was fun and exciting.”

Temosho Maoko (Grade 9) from Mamelodi High School said it was an interesting project and that she learned more about artificial intelligence.

Sicelo Sithole (Grade 9) from Nellmapius Secondary School, who wants to become a motor engineer, said, “It was fun because we never had the opportunity to learn how to code a drone before. It was mind-blowing.”

Matlale Ratau (Grade 9) from Phateng Comprehensive Secondary School, who wants to become a civil engineer, said he

gained new knowledge in an enjoyable and fun way.

Mimi Maswanganye (Grade 9) from Tsako Thabo Secondary School, who wants to become an IT specialist, reflected on the experience and one of the biggest lessons she learned: “Finish something you have started, and never let your dreams go – all of us can learn new skills.”

Bryce van de Kraats (final-year Electronic Engineering student at UP), who has been involved in similar projects with Hong Kong Polytechnic University, said the project is an excellent opportunity for the learners, and an enriching experience for himself and the other UP student volunteers.

Dr Jordaan said the projects had created additional opportunities to grow and develop the relationship between the University of Pretoria Pre-University Academy, Hong Kong Polytechnic University, UP, and other higher education institutions. “There are more e-community projects being developed with other higher education institutions, and we are busy discussing new projects. I am excited about what the future holds!”

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