

Unplugged coding – reaching all our learners

Prof Jean Greyling – HOD, Computing Sciences

The Tangible coding project draws its inspiration from the TANKS app, developed by Byron Batteson as an Honours project in Computing Sciences in 2017. Since then, it has evolved into a movement with a footprint across five continents. Its flagship tools are a range of mobile apps and games developed after 2017. These apps are complemented by various teaching and training materials designed for Grade R to 9 teachers.

In this talk, Prof Greyling will report on the impact this movement has had in reaching learners, irrespective of their environment, as well as on empowering teachers with no coding background. This will be illustrated through statistics, anecdotal observations, and reports on Master's and PhD studies conducted at Mandela University, the University of the Western Cape, and the University of Pretoria.

Reference will also be made to studies conducted in other countries. These include an ongoing IFIP investigation led from the UK into the role Tangible has played in the teaching of Coding and Robotics in South Africa, a teacher-efficacy project in Ireland, and Master's research conducted in Brazil by a teacher. Feedback from countries such as Ghana and Zimbabwe will be presented.

The inclusion of Tangible tools in the teaching and learning activities of students at universities such as the University of Johannesburg, Tshwane University of Technology, and Stadio will be discussed.

Finally, Prof Greyling will reflect on the different "currencies" of engagement and how these have evolved over the years. This includes consideration of the importance of having an external NPO responsible for implementing the project.