

# Community projects go virtual

All undergraduate students of the Faculty of Engineering, Built Environment and Information Technology at the University of Pretoria have to complete a compulsory undergraduate course, Community-based Project (JCP). This module, which was launched in 2005, requires students to work for at least 40 hours in the community and then to reflect on their experiences. In 2011, 1 590 students were enrolled for the module.

One of the projects in which students can become involved is Dr Maths on MXit. This is a tutoring programme that uses South Africa's popular cellphone-based instant messaging software, MXit. The Dr Maths on MXit programme was developed by Dr Laurie Butgereit, a programmer at the CSIR's Meraka Institute in Pretoria.

This programme is aimed at assisting learners of all grades with their maths problems, thus offering an affordable tutor.

Dr Maths on MXit gives learners the opportunity to ask for help with their mathematics homework questions.

By using MXit on their cellphones, learners can contact Dr Maths in the afternoons after school and Dr Maths can guide them through the problematic areas of their homework. It does not do their maths homework for them. Instead, it helps the learners to solve their problems on their own using a medium that the learners find fun and exciting.

Students in the Community-based Project module have been involved in the Dr Maths programme since 2006. They tutor learners by logging on to Dr Maths as tutors from their own computers or from computers at the University. The community members they serve are therefore part of a virtual community.

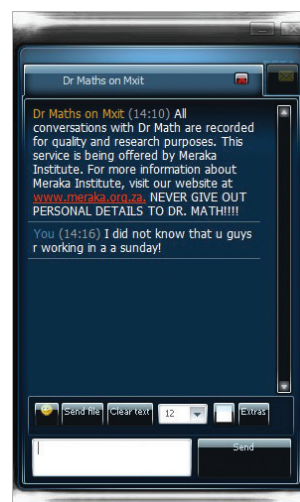
This project has been so successful that the number of learners registered on the server increased from 800 in 2005 to 19 000 in 2010.

## Maths in a minute

The idea behind the Dr Maths project can be extended to the rest of the world via YouTube and Facebook. This concept is derived from the following scenario: You have to sell an idea to someone like Bill Gates and the only time he has is the minute it takes you to ride in the lift with him.

A cellphone video project was developed in 2010 by two civil engineers, Ansia Labuschagne and Chris Berrangé. This project was aimed at selling a mathematical principle in one minute. The students designed and uploaded four cellphone videos, which depicted mathematical principles.

Through this innovation, learners are also able to send each other interesting footage via their cellphones, such as the dissection of a frog. The only restriction – as the video needs to be distributed by secondary school learners via cellphone – is that the video should be short (no longer than 60 seconds) and it should be interesting. Along with these two requirements, it should be kept in mind that the full mathematical meaning of the specific principle must be clear and concise.



→ *Dr Maths on MXit from the view of the learner recipient.*

The following video clips can be viewed on YouTube:

- Straight lines: <http://www.youtube.com/watch?v=eAZVNRhpWFs>
- Cutting corners: <http://www.youtube.com/watch?v=bn9a6b5ap34>
- Signs: <http://www.youtube.com/watch?v=10vAKFNnva0>
- The gods must be crazy: <http://www.youtube.com/watch?v=VsuKKVlp2O8>