Project background

Education has the power to transform lives. Equipped with skills, knowledge and confidence, it is possible for educated children to lift themselves out of poverty and reach their full potential. Yet problems such as under-resourcing, poor infrastructure and low levels of attendance within secondary schools in Tanzania have led to persistently poor performance of students, particularly in the fields of mathematics and sciences (physics, chemistry and biology).

The Christian Social Services Commission (CSSC) is a non-governmental organisation with an outstanding record of delivering education in Tanzania. To help address this issue, CSSC collaborated with Studi Academy, an international partner with expertise in creating content for education technology (edtech). Together they piloted a project that focused on creating an e-learning platform that placed students’ active participation at the heart of the learning experience.

Project description

CSSC preloaded quality teaching resources such as animation, video and interactive exercises onto tablet computers for 50 secondary schools, and worked with the Tanzania Institute of Education (TIE), which sits within the Ministry of Education, Science and Technology (MoEST), to ensure resources were in line with the Tanzanian curriculum. Schools were selected on the basis of having good infrastructure, with both managers and teachers willing to cooperate and assist with installation and implementation. Teachers were given technical instruction and trained in learner-centred teaching.

Students used the interactive content to help review lessons, carry out their homework assignments, and take quizzes to test their knowledge at their own pace. The platform also enabled the teachers to assign, view and mark their students’ assignments online.

Project results

An analysis carried out towards the end of the pilot assessed changes in performance of Form II students in schools supported with e-learning in the subjects of physics, chemistry, biology and basic mathematics. The analysis compared the Form II national examination results of 2015 before the start of the e-learning project with those of 2017. A total of 42 schools were included in the analysis, excluding government schools and those which either dropped out of the e-learning project prematurely or did not fully participate in the e-learning programme.
Among the findings, the analysis found that:

- Results in the pilot schools indicated an increase of 16–19 per cent in student performance in basic mathematics. In some schools labelled as ‘moderate to poor’ performing, such as Kigurunyembe Secondary School, this figure exceeded 60 per cent.

- Conversely, schools that did not go through the e-learning programme witnessed an overall drop in mathematical performance of 13–15 per cent. The decline in performance among girls was even more dramatic, falling by 18–20 per cent.

- Some of the students and teachers interviewed suggested that using the e-platform had helped to improve the quality of teaching and increase students’ grades:

  ‘I have changed a lot through this e-learning… now I allow democracy during my lesson, students have time to explain, narrate and sometime demonstrate the issues. They are happy with me.’ (Science teacher, St Joseph Girls’ Seminary)

  ‘I managed to score A in mathematics in mock and National Form II exams. Thank you CSSC and Studi [e-learning] platform; without you, I am sure my mathematics score could be F grade.’ (Student)

**KEY LESSONS**

The impact analysis also revealed that not all the pilot schools were able to benefit from the e-learning platform and that certain pre-conditions need to be in place for e-learning to be effective. These include commitment and readiness of schools and teachers to integrate and use e-learning, availability of basic IT infrastructure (or readiness to invest), the assignment of personnel responsible for ICT maintenance and troubleshooting, and the availability of qualified teachers and reliable electricity.

**NEXT STEPS**

Since the pilot, CSSC has been working with new local partners to develop and deploy their own e-learning platform and with TIE to improve learning content and negotiating with government ministries on how to roll out the new e-platform to government schools. CSSC now has full ownership and editing rights, and plans to repeat the teacher trainings and explore mobile phone technology. It will also continue to monitor uptake and evaluate improvements to the e-platform’s design, reliability and sustainability.