EDUCATION PROJECT PROFILE

HUMAN DEVELOPMENT INNOVATION FUND

Funded by UKaid from the British people

E-LEARNING IN SECONDARY SCHOOLS

Grantee
CHRISTIAN SOCIAL SERVICES COMMISSION (CSSC)

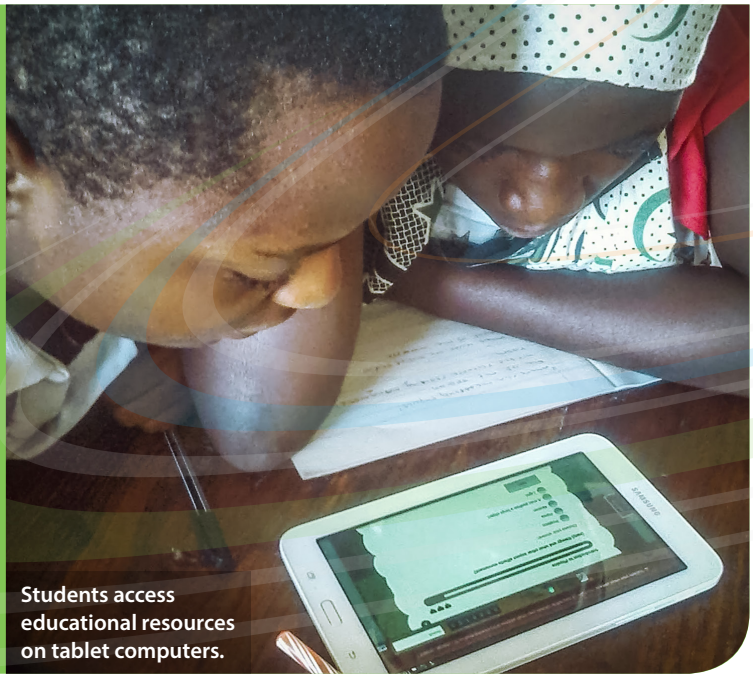
Grant amount
GBP 350,000

Project duration
May 2015–May 2018

Implementing partners
Studi Academy

Beneficiaries
Secondary school teachers and students

Location
Mbeya, Kilimanjaro, Shinyanga, Iringa and Tabora Regions



CSSC

Students access educational resources on tablet computers.

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.

GENDER EQUITY AND SOCIAL INCLUSION

In response to girls' low uptake of O and A level mathematics and science, CSSC included 14 girls' secondary schools (all Church-owned) for the pilot. Nearly 60 per cent of the total (2,213 out of 3,696) Form I and II students across the project were girls.

PRINCIPLES FOR DIGITAL DEVELOPMENT

Design with the user: CSSC quickly understood that unless content was entertaining and easy to use, both teachers and students were likely to abandon the e-learning platform. By engaging users in feedback and working with TIE to improve the content, CSSC was better able to develop a product based on users' needs, engagement and acceptance.

Build for sustainability: During the pilot, CSSC discovered that the e-learning platform's over-reliance on internet connectivity was hindering sustainability – especially in schools where connection was very poor. To address this, CSSC developed a school-based Learning Management System (LMS) where content is hosted locally and services are maintained within the school. Teaching resources are now hosted on a web-based learning platform, allowing schools to update content and access examination and revision material both online and offline.

Be collaborative: CSSC worked with a recognised technology partner, identified a sustainable business model and liaised with government decision-makers to ensure the solution was in line with laws, regulations and policy. Without government support and collaboration, scaling up would have been restricted.

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.

Christian Social Services Commission C S S C

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