Partnership to Strengthen Innovation and Practice in Secondary Education (SIPSE)

CONTEXT

The Global e-Schools and Communities Initiative (GESCI), in collaboration with The MasterCard Foundation and the governments of Kenya and Tanzania came together to spur innovation through the integrated use of technology in teaching and learning at secondary education level under the Strengthening Innovation and Practice in Secondary Education (SIPSE) project.

SIPSE was initiated with a goal of improving student performance in the critical subject areas of Science, Technology, English and Math (STEM) subjects by equipping teachers to provide a student-centered, participatory and an ICT- based approach to curriculum delivery.

Performance in the STEM subjects is in a state of decline in schools. Students are struggling to understand science and mathematics concepts and are underperforming in examinations. This accounts for low enrolments in science, technology and mathematics-related courses in universities. The overall effect is that innovation, productivity and job creation are limited, and this hinders sustainable, inclusive socio-economic development.

HOW IT WORKS

The programme has been implemented in two phases. Year 1 which ran from June 2013 to May 2014; and Year 2 that started in June 2014, and ends in May 2015. During this time, the following approaches to teaching and learning were used:

- Use of ICT in didactic teaching
- Use of ICT in problem-based learning
- Use of ICT in project-based learning

Each of these approaches was implemented in phases between January 2014 and March 2015. A face-to-face session preceded each phase, followed by a 3-month online engagement session.

For **teachers**, the 2-year blended learning course included:

- Access to online content through an e-learning platform. This platform also provided a forum for collaboration through sharing of resources that were developed during the programme period. The resources included lesson plans, presentations and digital learning resources, which were validated before uploading.

- **Identification, review, evaluation, downloading and storage of online resources** for teaching STEM subjects.

- **Peer-to-peer collaboration** through online chats, discussion forums and lesson presentation observation.

- **Development of presentations** using various software (Word, Excel, Power point, Media player)

The face-to-face and online engagement sessions were complemented by school visits and classroom observation by SIPSE Master Trainers focusing on a school-based professional development approach and peer review activities.

For the **Master Trainers**, the 2-year blended learning course included the following activities:

- SIPSE curriculum development based on prioritized ICT competencies from the UNESCO ICT –CFT Competency framework

- Online tutoring through facilitation of chats and discussion forums

- Face-to-face facilitation

- School visits and classroom observation.

After each lesson the visiting Master Trainer took time to discuss the lesson reflectively with the teacher to ensure that the concepts of ICT Integration as taught during the online course were applied practically.

The programme is supported by an e-learning platform and an m-learning application that increases access to content, making anytime-anywhere learning possible.

IMPACT

SIPSE is a demonstration that the blended learning model can be adopted for general teacher professional development to train both existing and new teachers in more cost-effective ways.

Through SIPSE,

- At least 120 teachers from 10 schools in Kenya and 10 schools in Tanzania have been equipped with technology and interactive teaching skills in STEM subjects.

- Over 10,000 students have benefitted from the initiative. ICT integration in the classroom has greatly improved the

learning atmosphere and now students actively participate in the learning process.

- The overall long-term effect is that youth innovation and productivity are likely to lead to job creation.

COMMUNICATIONS AND AWARDS

There was need to motivate the teachers at an individual, group and school level. A design for a competition was built into the training programme and sponsorships for the awards sought from the Corporate Social Responsibility (CSR) departments of various organizations. The following organizations have supported SIPSE: A-Z Technologies, Access Kenya, Cadbury, the Jomo Kenyatta Foundation, Microsoft, Orange Kenya Limited, Platinum Associates, Roskar Travel, and the Sarova Group.

A to Z Technologies

AccessKenya GROUP
AN INTERNET SOLUTIONS COMPANY

Cadbury

JKF THE JOMO KENYATTA FOUNDATION
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