

UNLOCKING SCIENTIFIC POTENTIAL IN EAST AFRICA

East Africa's performance in science subjects is likely to improve, courtesy of new e-learning computer applications and learning management systems.

Cyber School Technology Solutions (CSTS), a leading provider of education technology for schools, colleges, universities, and governments has developed applications aimed at improving both the teaching of sciences in secondary schools and school management systems to ensure that schools are managed efficiently.

The organization is operational in Kenya and Uganda. Currently, 150,000 high school students are enjoying benefits of e-learning.

Driven by the desire to achieve the Millennium Development Goals, CSTS e-learning applications address the critical needs of educators and students. In Kenya, there are applications for Physics, Mathematics, Biology and Chemistry (Digital Science) which is aligned to each country's specific curriculum.

CSTS has also developed an innovative Virtual Lab that contains all the experiments carried out in the schools curricula, enabling schools with limited resources to still carry out all experiments. Because the experiments are carried out using the virtual Lab, potentially hazardous experiments do not pose any danger to the students.

By equipping schools with necessary hardware, CSTS noticed that rural schools are leapfrogging urban schools in adoption of e-learning. This will go a long way to bridge the rural-urban digital divide.

In Kenya, for instance, our project in Narok district has ensured that students in the expansive Maasai Mara get a chance to experience the products. From May 2007, over 2000 students in the world famous region will start enjoying the benefits of e-learning and the number is expected to grow to 5000 by the end of July.

The Uganda government has contracted CSTS to equip and train teachers in 100 schools. The schools will install the learning management system and create a hybrid teaching model, with face to face teaching complemented by CSTS e-learning applications.

E-learning has the ability to break down cultural and geographical barriers and ensure that more students have access to learning, where it would have been previously impossible. CSTS has identified e-learning as one of the ways of uniting the region.

Through e-learning, CSTS hopes to qualitatively improve learning by conceptualizing more creatively and digitizing learning resources to help educators build better learning interventions.

For the tough science subjects, CSTS hopes to make them fun by introducing new teaching aides in the subjects of Mathematics, Biology, Physics and Chemistry that animate and turn the subjects to life, making it easier to learn and recall.

Through use of everyday examples, the applications use 3D animation to demonstrate the concepts, a method calculated to ensure the students grasp all the concepts and can relate them to everyday life.

Granted its expansive network and experiences elsewhere in the world, CSTS is willing to partner with Kenya's ministry of youth affairs in their effort to revive the youth polytechnics. CSTS will use the innovative ICT packages to promote e-learning within the polytechnics.

Through the polytechnics, the youth can be expected to come up with products similar to the ones produced by technical schools in industrialized nations. This way, CSTS will prove that ICTs can be applicable to all.

CSTS recognizes the challenge faced by girls seeking to pursue sciences, from cultural challenges to their attitude towards the subject, but this is bound to change with e-learning.

For instance, at Ruiga girls in Meru District, (Kenya) a school with no electricity, 220 students and 12 teachers, students have demonstrated positive index improvement in sciences after using the Digital Science Products.

Access to technology is an issue that has dominated many e-learning forums but how is the significant investment being matched with the necessary accompanying measures for capacity building of teachers, students, and parents? What services are provided or initiated, be it for technical maintenance or for capacity building with regard to the integration of ICTs into the instructional processes, content development, and delivery?

Granted that using ICT to improve learning outcomes is still a relatively new field in the education sector, gaps between policy and planning on one hand and implementation on the other hand often occur.

CSTS is willing to work together with the Ministries of Education and Information and Communication in formulating relevant policies.

In the fight against HIV and AIDS, eLearning can accelerate the distribution of information and the building of capacities for teachers and students. CSTS is in the process of developing specific HIV modules for children from the age of 7 to 18 years of age, these teaching aides will be suitable for all schools including those located in remote areas that have no access to modern communications. The applications take into consideration cultural issues and bring high quality and well researched HIV, AIDS, and

information to all students in Kenya.

Technology will never replace a teacher, CSTS encourages harnessing the power of technology to augment and support the learning process. CSTS encourages a hybrid teaching model- where face to face teaching is combined with technology assisted learning which makes the overall learning experience enriching.

QUOTES

“Digital Science software has made learners to develop interest in the science subjects,” **Gabriel Mbaji, Maths/ chemistry teacher, Ribe girls secondary school - Kenya**

“CSTS applications have all the contents of the syllabus. Use of graphics helps students grasp abstract scientific concepts,” **Lambert Odhiambo, Head of Sciences, Tononoka secondary School. - Kenya**

“Through the use of 3D animation in sciences and maths, we were able to record a rise from a mean grade of 3.31 (D plain) in 2005 to 4.07 (D plus) in 2006,” **M.K Ponda, head of science department Mbaraki girls secondary school. - kenya**

“We promise to keep this fire burning; the fire of technology wonderland. Now, children will not regret going through Kaaro High School! There is now a hope to be shared”! **Mushabe Joshua , Headteacher/Secretary to the Board of Governors. Kaaro High School. - Uganda**

“During the training we have observed that the use of CSTS in teaching of sciences will boost the interest of students in learning sciences, improve performance and ease the teachers’ work as it adds reality to the explanations.” **Kalule Nmamale Catherine. Headteacher, Mary Reparatrix Secondary School**

About CSTS

Cyber School Technology Solutions is a leading provider of Technology Solutions in both the teaching & Learning environment and the resources management systems solutions required in learning institutions, world wide.

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