



SIEMENS | Stiftung

AccessSTEM: Bridging the Learning Gap through Digital Educational Resources

More information:
siemens-stiftung.org/en/projects/accessstem-social-entrepreneurial-solution-for-digital-stem-education



Challenge

In Ghana, the population of young people has grown rapidly in the last decades and now represents 36% of the population. At 11%, the youth unemployment rate is low in sub-Saharan Africa but it actually indicates that the youth simply cannot afford to be unemployed and many struggle with the employment quality. As a result, the country is unable to capitalise on its demographic advantages (ILO, 2022). This highlights the importance of an educational system that provides relevant skills and technologies for the young population to be ready for the future growth enhancing digital and green sectors linked to STEM (science, technology, engineering and mathematics) subjects, improve their quality of life. The pandemic further exacerbated this learning gap due to the months-long lockdowns and showed the significance of digital education and access to affordable and reliable internet. Those with access to digital education tools could continue to learn and develop skills, while those without were further marginalised and were left on the receiving end of the digital divide.

Challengers

BLUETOWN: *Connecting the unconnected*, is a social enterprise providing internet and digital content services in underserved communities. Its mission is to reduce poverty, inequalities, and gender divide by improving access to information. It uses its trademark technology to work off-grid, solar-powered, and under rough conditions to provide affordable internet access for low-income households. Their system is equipped with a local cloud that offers easy access to data-heavy content. Local implementation is managed by micro-operators, thereby providing local employment opportunities. BLUETOWN won Siemens Stiftung's empowering people. Award in 2019, a global competition for low-tech solutions addressing basic needs in developing regions and subsequently became a member of its empowering people. Network, an international ecosystem for social entrepreneurs.

Siemens Stiftung has been working with global and local partners to implement STEM education which is high on the agendas of every education policy. However, achieving this goal depends on well-qualified educators, high-quality learning content and tools. Since 2019, the organisation has been engaged in Ghana, providing a range of teaching and learning materials for science and technology lessons focusing on vocational orientation that are modular and adaptable to country-specific needs. Additionally, they have developed high-quality open educational resources (OER) on STEM topics. Currently, their media portal provides 4,000 OERs that support diverse and hands-on classroom experiences. Their extensive experience working with teachers in Ghana, Nigeria, Kenya, and South Africa shows that materials focusing on teaching methods, teacher instructions, and teachers' capacity building are most successful in supporting teachers and students.

Solution: Pilot Project

This collaboration will provide 4,000 to 5,000 teachers and students access to BLUETOWN's connectivity infrastructure in combination with Siemens Stiftung's innovative learning materials in STEM subjects. Furthermore, the project team will organise various training activities with the beneficiaries to ensure high impact of the services and materials provided. The pilot will be kicked-off in four schools in the eastern region of Ghana, where the availability of digital learning tools and vocational education is comparatively low. The project is financially supported by a donation from the Sustainable Impact Fund of Siemens Digital Industries.

Benefits

- 4,000–5,000 teachers and students receive cost free access to OERs
- Access to a variety of digital learning and teaching materials on the local cloud
- The use of e-learning tools for teaching and learning
- Adapting OER content for local use
- Improved teaching methods, specifically in the vocational orientation of students
- Ultimately enhancing students' employability



"The AccessSTEM project will enormously help my colleagues and I to learn and disseminate knowledge by providing free and easy access to new and modern teaching resources on the local cloud"

(Wisdom Selorm Kojo Agbasa, ICT Teacher at Koforidua Technical Institute, Ghana)