African Union

AFRICA EDUCATION INNOVATIONS HANDBOOK 2019

Innovations in Harnessing the Capacity of ICT to Ensure Inclusion, Quality and Impact in Education and Training in Africa

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INNOVATING EDUCATION FOR THE AFRICA WE WANT

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Kytabu
Kytabu is a mobile application containing all the books required for students in primary and secondary school in the Kenya.

Lightboard
The Lightboard is a glass board, which has light internally from LED strips along its edges. In order to record video lecturers for online learners, a video camera captures the presenter and his/her writing by viewing through the glass.

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Portable PC Lab

A portable computer Solar-lab-in-a-bag that equips teachers to integrate ICT within their classroom lessons in order to adequately teach digital skills.

Clicking Generation

A social enterprise that offers computing and technology curriculum to underprivileged children and teens.

22.

Education Innovations   23-43

Foreword

The Continental Education Strategy for Africa (CESA 16-25) provides a guiding framework for re-orienting our education systems so that education contributes to realisation of the aspirations of Agenda 2063. As a bedrock on which these aspirations, Education needs to be fully exploited as an enabler to harness the demographic dividend and realise a prosperous, integrated, peaceful Africa for all – including Refugees, Returnees and Internally Displaced Persons which were the focus of the African Union for the year 2019.

Innovative programmes and policies have to be developed and implemented to realise the full transformational benefits of education, while also supporting these initiatives with the suitable financing models for their sustenance. Indeed, strong focus should be placed on Science, Technology, Engineering and Mathematics (STEM) if Africa is to fully participate in the fourth industrial revolution; utilising ICT for ensuring quality and access and ensuring equitable opportunities for all.

This Third Edition of the Africa Education Innovations Handbook therefore documents 40 innovations, as submitted by Innovators from over 30 African Countries who were selected and prompted during the Innovating Education in Africa Expo 2019, held in Gaborone. It is without doubt that the ideas which are herein presented have the potential—if adopted—to enhance and even revolutionise education in Africa.

The Innovating Education in Africa Expo which was initiated in 2018 by the African Union Commission and Partners across the continent has gathered great momentum and proven to be Africa's premier event for showcasing best practices—which are adapted to the African context—for addressing the complex challenges in education delivery and management of education. So far, 79 innovations have been identified from over 45 AU Member States who have been supported with grants (up to US$315,000) to strengthen their innova-

tions and catalyze adoption, while also providing opportunities through the African Union and its network of education partners. Furthermore, these innovators have been connected through the Africa Education Innovators Network (AEIN) to promote experience sharing and peer-to-peer learning.

During the 3rd Specialised Technical Committee on Education Science and Technology (STC-EST3) meeting held in December 2019, the Ministers agreed to convene the Innovating Education in Africa Expo as an annual event to keep momentum for Education Innovation in Africa towards attracting and supporting young innovators across the continent, and further encouraged Member States and Regional Economic Communities to support the work of the Commission regarding its organisation. In this regard, I am confident that Africa is on the right part to transforming its education to meet the demands this century.

I wish to express my sincere gratitude to the Governments of Senegal and Botswana for hosting the previous editions of this event and partners who have supported on this journey including GIZ, Mastercard Foundation, European Union, UNICEF, UNESCO, VMware, Ashoka, ONE Campaign, Plan International, USAID, ADEA, FAWE, GPE and GeSCI. I would like to also extend a bouquet of gratitude to all the departments and directorates of AUC for the various support that has been provided to facilitate the success of the Innovating Education in Africa Expo.

Finally, my sincere gratitude to the Chairperson of the African Union Commission, H.E. Mr. Moussa Faki Mahamat for his continuous engagement and facilitation towards the implementation of the continental agenda for Human Resources, Science and Technology. Thanks to the Deputy Chairperson, H.E. Mr. Thomas Kwesi Quartey for his support.

I invite you to look out for the next Innovating Education in Africa Expo to be held in Kigali, at which more innovations will be unveiled, and published in the third edition of the Education Innovations handbook.

H.E. Professor Sarah Anyang Agbor
Commissioner for Human Resources,
Science and Technology

PRIZE WINNERS 2019

Meet the winners of the African Union Education Innovation Prize in 2019

Susannah Farr
South Africa

Wakesho Nyaboke
Kenya

Ngangue Joseph
Cameroun

Samson
Rwawire,
Uganda

AdeDamola K.
McCarie,
Nigeria

gold-youth, an award-winning organisation with an evidence based solution, is creating a movement to embed long-term peer role models/ mentors into all schools and communities, changing the system of youth education and upbringing in Africa. We're transforming the role of youth from being passive recipients of negative norms to proactive social and economic change agents who assume the role of empowering themselves and their peers to lead tomorrow.

"Hadithi Hadithi!" means "Story Story!" and it's what a Kenyan grandmother calls to her grandchildren when she calls them around the fire to tell them a story. It's the name of our literacy app for children aged 5-8, and it's made up of hundreds of stories, written by teachers, read by actors, and illustrated by artists all over East Africa. With each story is a set of comprehension, spelling and letter tracing apps that combine to make up the Reading to Learn pedagogy.

SCOLARYX educational Box is a micro server containing the equivalent of 10,000 lessons available offline. Its administration is relatively simple and can be used by school heads, learners or parents. The SCOLARYX Box contains a Wifi card through which the user can connect to a computer and access educational content without internet. This portable, efficient and inexpensive micro server locally contains the SCOLARYX Educational Software completely developed by locally.

The Lightboard is a glass board, which has light internally from LED strips along its edges. In order to record video lecturers for online learners, a video camera captures the presenter and his/her writing by viewing through the glass. The result is vivid, luminous writing floating in front of the presenter, who can now face toward the camera while drawing and interacting with the material on the board. It can be used to deliver realtime online lectures with livesteam connection.

The iSchool CLOUD Framework is a complete computerization solution for education. By implementing simple but effective Artificial Intelligence and Virtual Reality concepts, It makes it possible for established schools to enroll hundreds of thousands of more students from outside their immediate geographical locations into their Virtual School programs. This system allows standard schools to partner with individual tutors and smaller schools in remote locations.

PRIZE WINNERS 2019

Meet the winners of the African Union Education Innovation Prize in 2019
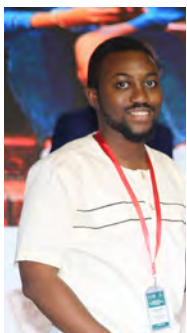
George Boateng, Ghana

Joshua Oodira, Botswana

Lamine Sarr, Senegal

Carlos Augusto, Mozambique

Goodluck Chanyika, Tanzania

Chancel Malanga, DR Congo

SuaCode aims to address Africa's digital gap by introducing students in Africa to coding through smartphones. SuaCode is a smartphone-based online coding course that aims to teach millions across Africa how to code by exploiting the proliferation and untapped capabilities of smartphones. Learners in SuaCode are introduced to basic coding using their smartphones.

Classmate is a fully citizen owned, home grown solution created with the chief aim to innovate the way students interact with the academic curriculum, other students and career motivated materials. The system is dependent on the inputs of the students when interacting with each other as well as tailored Online content such as Competitions, Quizzes, tutorials, career fairs, promotions, inter student experience sharing in a controlled and secured platform

Nouvelles Editions Numériques Africaines (NENA) has produced a fully operational solution that can be scaled up across Africa. These are digital libraries of African content. Launched in 2017, the African Digital Libraries include two types: Offline digital libraries on eReader and Online digital libraries. It is possible for schools to install a digital library, which is adapted to the curriculum, faster and at a lower cost than traditional libraries.

ACADEMYCUS is an all-in-one school automation system that is specifically designed to simplify the complexities faced in everyday school operations including academic, administrative and financial management. The system suites almost every school or educational institution and it includes 19+ modules with 8 inbuilt users (Admin, Academic Director, Accountant, Teacher, Receptionist, Librarian, Parent and Student).

Jumuisha Tanzania Initiative comes as an online library and innovative learning network to support Continuous Staff Development programs among teachers in Tanzania, so they continue to learn even after they graduate and go into a teaching career. The platform has four types of disabilities – hearing impairment, visual impairment, physical impairment and intellectual impairment.

KELASI is a web portal which enables schools to publish pupils' school activities and important announcements for the attention of the tutors. Once this information is available on the platform, the tutors receive it immediately via an SMS notification or a mobile application. The KELASI platform provides access to a database containing all the student's school related information, which can be transmitted to the tutor.

ACADEMYCUS

MOZAMBIQUE

PROBLEM BEING SOLVED

"Quality of Education Begins in The Management"

The volume of data generated in an educational institution is large and often the information is not processed and stored properly, which causes an overload in academic management and the secretariat, having a financial impact and generating bottlenecks that hamper the operation with other areas of the institution.

Without an effective school management software, many good opportunities are lost and too much time is wasted. In addition, non-standardized processes generate unsatisfactory results, which can lead to an imprecise and even misleading understanding of the situation.

DESCRIPTION OF INNOVATION

ACADEMYCUS is an all-in-one school automation system that is specifically designed to simplify the complexities faced in everyday school operations including academic, administrative and financial management.

The system suites almost every school or educational institution and it includes 19+ modules with 8 inbuilt users (Admin, Academic Director, Accountant, Teacher, Receptionist, Librarian, Parent and Student).

ACADEMYCUS enables all authorized users to search for information regarding students and school records, and assists the school in keeping all information related to the different departments of school in one place. The software system provides users with a login credentials for accessing files, documents and other school resources.

WITH ACADEMYCUS YOU CAN:

- Manage Courses and Batches
- Manage Subjects and alocate to teachers
- Manage Timetable
- Manage Student Admission
- Manage Employee/Teacher Login
- Manage SMS Alerts
- Manage Human Resources
- Manage Examination

- Manage Tests
- Manage Home Works
- Manage Fees/ Finance
- Manage Student/Parent Login
- Keep the track of information
- Provide access to parents
- Information on teachers
- Manage attendances
- Keep track of report cards

- Tracking of fees
- Managing admissions
- Managing Transport
- Track on assignments
- Manage Library
- Manage Inventory

UNIQUE OUTCOMES AND IMPACT

With ACADEMYCUS, all information is digitized, organized and easily accessible, allowing the generation of follow-up reports for accurate analysis and assistance in decision making by the manager.
Bellow are the main Outcomes/Impact

1. Immediate availability of student information in case of need
2. Decision Making Based on Concrete Data
3. Cost Reduction
4. Efficiency in Financial Management
5. Reduction of delays and / or non-payment of tuition and other fees
6. Banking Integration of Payments
7. Growth of the Trust within the Parents and the School
8. Improvement of School Planning
9. Student Attractiveness and Loyalty

REPLICATION AND SUSTAINABILITY

To Upscale and sustain the system we plan delivery the system in 2 business models:

1. CLOUD BASED or SaS (Software as a Service) - in which we delivery it to clients through the internet. So the clients do not have to install the software, update it, maintain it and integrate it. The vast majority of technical aspects are "taken care of" by us and the client can start using the SaaS product with little effort.

2. ON PREMISE - The best option for those with concerns about data security, or want to integrate the platform into internal business processes, or don't want to diffuse efforts on multiple platforms management.

PROBLEM BEING SOLVED

1.The issue

More than 65% of the African population is under 25 years old. This population will double to reach 2.5 billion in 2050. Their education remains one of the major challenges. It will be necessary to set up the material conditions for access to educational resources and documentation like libraries. The situation is very concerning because of the majority of schools in African countries do not have libraries or have insufficient documentation, especially regarding African content.

DESCRIPTION OF INNOVATION

2.Solution

Based on this observation, Nouvelles Editions Numériques Africaines (NENA) has produced a fully operational solution that can be scaled up across Africa. These are digital libraries of African content. Launched in 2017, the African Digital Libraries include two types:

1) Offline digital libraries on eReader

An eReader is a mobile device dedicated to reading digital books. NENA offers two eReaders, one for primary school level, the other for secondary level. It is now possible for schools to install a digital library, which is adapted to the curriculum, faster and at a lower cost than traditional libraries.

2) Online digital libraries

NENA has set up digital libraries available online on its platform. These are 9 digital libraries in law, social sciences, management, literature, art and culture, youth, accessible on the Internet by subscription.

More than 3,000 titles, in French and English, from more than 95 African publishers will be available before the end of 2019.

UNIQUE OUTCOMES AND IMPACT

3. Results

Already two schools in Dakar with a few thousand students have acquired dozens of eReaders.

In March 2018, a Senegalese NGO opened the "Bibliothèque populaire du développement" with a digital room with the acquisition of 10 NENA's eReaders.

For online digital libraries, the Virtual University of Senegal is currently subscribing to all these libraries for its 4,000 students. The steps are underway at the 6 public Universities in Senegal for a subscription for 60,000 students.

REPLICATION AND SUSTAINABILITY

From its conception, NENA's project is multilingual and pan-African. So it can be replicated in any country. Among the 40 publishers with whom NENA has signed a co-publishing contract, many come from other African countries (Cameroon, Ivory Coast, Guinea etc). NENA thus helps these publishers to digitize their catalog.

The viability of the project is based on the fact that since 10 years NENA has been digitizing and safeguarding Africa's scientific and cultural heritage in order to make it accessible and to ensure its transmission to future generations. NENA's digital libraries are destined to become a sustainable common good of Africa

BOOKCONEKT

B E N I N

PROBLEM BEING SOLVED

Less than 1 in 3 schools in Benin have a library, denying students the chance to gain crucial knowledge and language skills. Lack of access quality reading materials lead to poor academic performance and high school graduates often cannot express themselves clearly in either writing or speaking, compromising their future. Parents and young adult can currently access books by visiting libraries and bookstores, most of which are located in Cotonou and not accessible online. This means traveling in heavy traffic for hours and spending time searching products from store to store with deception when books needed is not found

DESCRIPTION OF INNOVATION

We are a social start-up that aims to improve literacy rates by providing affordable and universal access to quality reading materials. With one click, BOOKCONEkT.COM provides access to any books anytime, anywhere through a mobile and virtual library and bookshop. Users can either buy or borrow whether virtual or hard books with delivering at home.

Parents and young adults are our primary customers. They represent a market estimated at $200 million. we are their preferred choice.

1. Low cost: Our website offers the lowest prices, and saves our customers the time and cost of travelling to bookshops or libraries.

2. Convenience & safety: Kids can access products through our online catalogue without having to take public transport.

3. Variety: We offer academic books, romance, novels, comics, African and local productions.

4. Re-sell option: we are starting the first-ever Benin online book market (second hand) space where people can sell their used books and get income. Low income users will be able to buy used books at cheaper prices, and resell them later.

5. Single platform: We partnered with local bookshops to use our platform to reach more customers instead of building their own online presence. Moreover, we will offer advertising to publishing houses and authors to promote their productions.

Early-adopters of our website are 80% parents and 20% young adults or school students. We take advantage of a rapidly growing digital commerce market in Benin to overcome financial and geographical barriers to reading.

UNIQUE OUTCOMES AND IMPACT

- December 2017-January2018:Initial landing page launched; $50 profit and 30 books sold within 2-month test period
- 2017-2018:$6050 raised from Tony Elumelu Entrepreneurship program 2017 and competition Get In The Ring Cotonou 2018
- August 2018:BOOKCONEKT.COM launched, offering mobile bookshop and library including e-payment through MTN Mobile Money. In 6 months we received 5000+ visits and distributed 100+ books with $300 in revenue and growing followers on Twitter and Facebook.
- Partnerships:Agreement with Transportation Company, 5 famous publishing houses, 2 physical libraries.
- Training:Mandela Washington Fellowship 2018, etristars.com 2018

REPLICATION AND SUSTAINABILITY

We will just need to have sales team in countries. They will negotiate partnership with local bookshop and library to upload their content on the platform. Then, we will create an adaptation for each country like BOOKCONEKT.SN for Senegal. We will do like amazon or jumia. The sales team will communicate about the book-market place so that people upload their books to be sold. The book market place will be very useful as most of our population has a very low income.

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06
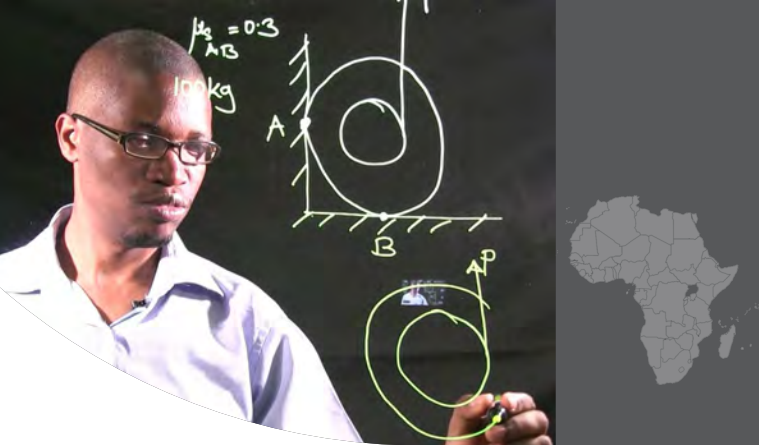
PROBLEM BEING SOLVED

Science and Engineering lectures often times involve drawings and equations and the current trend has been that chalkboards and whiteboards are used, however, the challenge is that the instructor or the lecturer gets disconnected from the learners when he turns his back to write the equations or drawings (Birdwell and Peshkin, 2015)

Due to the busy nature of the masses and the need for upgrading, the need for online learning or flipped lessons is projected to increase. The lightboard enables the instructor to solve equations while facing the learners and leading to increased perception and learning.

DESCRIPTION OF INNOVATION

The Lightboard is a glass board, which has light internally from LED strips along its edges. In order to record video lecturers for online learners, a video camera captures the presenter and his/her writing by viewing through the glass. The result is vivid, luminous writing floating in front of the presenter, who can now face toward the camera while drawing and interacting with the material on the board.

With the increase of the Internet speeds in Africa, It is highly possible to produce online live lectures at ago using state of the art lectures with the video camera. Previously, it was demonstrated by Dr. Rwahwire when Engineering Mechanics tutorials were recorded and filmed on the light board as shown in the links below:

1. https://www.youtube.com/watch?v=x0-G4OLwBQk
2. https://www.facebook.com/kekensamedia/videos/940324609460975/

UNIQUE OUTCOMES AND IMPACT

The mass rollout of the lightboard in Africa's higher education system will be a new paradigm to the higher education sector.

Africa is a continent that needs its workers to be skilled as well as on the job and yet it is evident the majority of workers in Africa have no time for lifelong learning. The lightboard will enable live video lectures through streaming and the learners can be able to study online either through social media or from a web-portal.

REPLICATION AND SUSTAINABILITY

The innovation can be upscaled through funding of setting up the model e-learning lightboard studio at Busitema University which will be a resource center for other universities and schools.

rbsjunior@gmail.com | SAMSON RWAHWIRE

CAREERS MASTER

U G A N D A

Inside the Portal

11. Other features

Goal Setting
Short and long term goals,goals tracking

Digital Journal
Share your daily reflects with a digital journal,look back and be amazed

PROBLEM BEING SOLVED

Our innovation is solving the problem of poor career guidance in schools largely attributed to the lack of up to date and relevant career information and labor market information to use to guide and prepare students to embark on fulfilling career paths. This leads to poor decision making among students and ultimately leads to unemployment and underemployment as students choose paths whose skills are not needed in the market place

DESCRIPTION OF INNOVATION

Our solution is implemented through a mobile app and web app at https://careersmaster.ug where a student creates an account and embarks on a journey of self discovery through online personal assessments on student interests, personality and abilities there by connecting the student to a myriad of career paths that match their results

Our solution is designed to be a trusted companion of the student along their academic journey as it connects what they learn in class to a myriad of career paths to enable them value where they are as they visualize were they are going as well as empowering the student with tools that allow them to set goals and journal as they move on their academic journey.

Through the web and mobile application parents, mentors and teachers are connected to assist the students in making very informed career decisions at every step of the way. With parents understanding what career paths are of interest to their students.

Teachers on our platform get to understand what career paths are of interest to students hence plan better career guidance fairs as well as empowers teachers with information to connect what they teach to career fields.

Mentors on our platform share career experiences with students as well as keep students a braced with trends in the work place plus answering students related career questions

UNIQUE OUTCOMES AND IMPACT

Our solution culminates into a life long learning platform that will walk with the student from primary school through secondary into adulthood with information relevant at every level

Our solution individualizes career guidance for students as it is tailor made to cater for individual student's interest and abilities

Our solution gives policy makers a sneak peak into the future landscape of a country's work force giving key statistics on dashboard showing career interests of students and their education requirements

Our solution bridges the huge gap between school and the work place through Mentor-ship from a school's alumni

REPLICATION AND SUSTAINABILITY

Our solution can be replicated in other countries in Africa as many countries and grappling with the fact that they need to prepare students in their right chosen fields to enhance the current labor force. So with customizing the content according a specific country, our application can scale across Africa.

It is sustained in the following ways

1. Access on a subscription basis for users who want access to this vital information.
2. Advertisement from institutions of higher learning
3. Monetized API to have access to the rich data and statistics on careers master
4. 10% commission on every student we enroll in partners Institutions

PROBLEM BEING SOLVED

The Conexus Educational App (CEA pronounced "see"), a USSD based mobile app that was recently launched in Botswana to address the issues of accessibility, inclusivity and affordability to quality education. We want each student to succeed, achieve, make progress and excel, regardless of their cultural background, socio-economic status or geographic location.

DESCRIPTION OF INNOVATION

CEA helps students to revise material, assess and test their knowledge, compete with their peers in healthy in-app competitions, chat with their friends, ask tutors questions and get responses, it informs students about their world in the form of student news, alerts students about new developments especially in science and technology, it gives them access to the national syllabus and it provides them with fun facts about their learning world. Students receive immediate step-by-step feedback about their performance, including a generated report card (statistics) to extensively track and monitor their progress. Students also receive recommendations, to know which materials to revisit, and with practice, they can overcome these identified weaknesses. The app also provides students with exam prep strategies via exam/study tips to ensure they prepare well for upcoming in-class tests and/or national exams.

Internet connectivity in Botswana is limited and a handful of homes have a computer at home. On the contrary, mobile penetration is increasing exponentially. In other communities, the access to learning resource facilities (e.g. libraries) is either limited or unavailable; the same can be said for other communities across Africa. CEA however, welcomes and allows students to access curriculum aligned materials, at their convenience, wherever they are, via any phone, be it a feature phone or a smartphone.

UNIQUE OUTCOMES AND IMPACT

During the first month of launch, we had over 15000 students subscribed and actively engaged. Students enjoy the dynamic and personalized learning experience and actively participate without fear, and continually challenge other students (perhaps parents too) in the in-app student competitions. Companies and individuals offering tutoring services have also contacted us to implement the use of the platform for their tutoring sessions.

REPLICATION AND SUSTAINABILITY

CEA will evolve into a Web based application, but will however maintain the subscription based model. It will include interactive, multimedia-rich content, such as audio and video content, electronic worksheets and games and also integrate the use of assistive technologies such as text-to-speech capabilities in order to meet the unique needs of students with learning disabilities/difficulties. The project can be scaled and integrated seamlessly into the education systems of other African states.

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CLASSMATE

B O T S W A N A

PROBLEM BEING SOLVED

Current teaching is still using conventional approach which has proven to have gaps as evidenced by the decline in performance of students compared between Government and Private Schools. The continuous increase in student numbers has also created capacity and resourcing challenges that further impede in effective delivery of education. Examples include high teacher/ student ratios.

Majority of youths are on existing social media platforms for social or recreational use which may hinder their concentration on their studies.

Botswana is currently trying to develop and produce employment ready labor force by heavily investing in educatio

DESCRIPTION OF INNOVATION

Classmate is a 100% citizen owned, home grown solution created with the chief aim to innovate the way students interact with the academic curriculum, other students and career motivated materials.

With this application we will keep students engaged in the multiple streams of interactions available to them that make it exciting, comfortable, challenging and inspiring. The system is self-sustaining and dependent on the inputs of the students when interacting with each other as well as tailored Online content such as Competitions, Quizzes, tutorials, career fairs, promotions, inter student experience sharing in a safe, controlled and data secured platform

One of the major benefits and key selling features of classmate is the ability and the function to interact and connect students from, A - Rural and under privileged schools and those from B - significantly positive setting include private institutions. The system encourages them to share experiences, achievements, successes, challenges and indeed academic knowledge.

Students A – Benefits from the exposure and benchmarking from Student B.

This will allow them to widen their horizon, appreciate what lies ahead and indeed outside of their circumstances

Students B – Benefits from the exposure and benchmarking from student A

This allows for students the opportunity to mentor and motivate the less privileged and contribute to their moral fibre

UNIQUE OUTCOMES AND IMPACT

Socially and morally responsible social media

Classmate utilizes existing policies and infrastructure and thus has minimal financial input from stakeholders.

With this application we will keep students engaged in the multiple streams of interactions available to them that make it exciting, comfortable, challenging and inspiring. The system is self-sustaining and dependent on the inputs of the students when interacting with each other as well as tailored Online content such as Competitions, Quizzes, tutorials, career fairs, promotions, inter student experience sharing in a safe, controlled and data secured platform

REPLICATION AND SUSTAINABILITY

Currently we running the project with partnership of Botswana Telecommunication Corporation to enable schools with connectivity to access the platform across the country so we believe that if AU can adopt the model across all AU countries the project can up scale.

PROBLEM BEING SOLVED

In 2016, 17000 Rwandan girls experienced unwanted pregnancies: the number is equal to half of the total number of high school graduates in Rwanda and most of them are below 21 years old.Among them is also my cousin who fell pregnant at 16 years old.There are 4 many causes of this challenge the first one is the poor reproductive health information , low self-esteem , peer pressure and poverty.

DESCRIPTION OF INNOVATION

The challenge of teenage pregnancies matters a lot because it is negatively affecting the Rwandan girls towards achieving their full potential and thus as a change maker I decided to act on this issue by starting a social enterprise called SAYE company ltd that created DUKATAZE.

Innovation , an online platform with an aim to empower girls between 14-25 years old mentally, socially and economically to fight against unwanted pregnancy. At Dukataze we are tackling 4 causes of unwanted pregnancy which are peer pressure, low self-esteem, poverty and lack of strategic reproductive health materials.

The Dukataze online platform has 6 elements. Our first element is E-Counselling: beneficiaries are allowed to ask for face to face counselling, video and phone counselling. The second element is sharing of stories that are related to reproductive health. The third element is career guidance: we youth to complete a form of hobbies and passion and share their contacts. Girls will then undergo online mentorship and finally we will connect her with an organization that will provide internship opportunities based on her choices. The fourth element is a window of opportunities where we post the available competition, summits, scholarship, job opportunities and trainings. The fifth element is the startup tutorial, where you can find the videos that can teach you how you can start your small project that doesn't require a high capital and we provide vocational skills through our tutorials. Our last element is online store or e- Commerce where we sell the products that are manufactured by girls so that we can increase their sales.

UNIQUE OUTCOMES AND IMPACT

we have impacted the lives of 365 girls,among them there include the young women who were affected by the teenage pregnancies,where we create the safe space for them to share their stories so as to inspire and educate young girls who are not affected.we work with university students from AKILAH institute of education,AUCA, KISt,children from love the kids foundation and children from 12 years basic education,where we open up the discussion about teenage pregnancies.we sold 1000 products of girls to fight dependency syndrome and poverty and we provided peer counselling to 65 girls.we organized two big events that targeted out beneficiaries.

REPLICATION AND SUSTAINABILITY

We hope to be able to mentor 30,000 girls into peer educators from Rwanda, Burundi and Uganda by using our curriculum and they will impact 3000,000 girls by the year of 2022,this will reduce the gaps of parents who don't have time to talk to their children about their reproductive health and the girls who don't want to share their sexual life with their parents. We hope to empower unemployed 700 victims of unwanted pregnancies by using our startup tutorials to empower them to establish their small income generating projects.We see our innovation being able to sell 700,000 products that are manufactured by girls per month by the year of 2022.

dukatazeonline@gmail.com | UMUHOZA AMINA

HADITHI HADITHI!

K E N Y A

PROBLEM BEING SOLVED

The foundation to every child's education is literacy, and yet even in the most developed countries, like South Africa and Kenya, only 25-30% of children in Class 4 can read fluently. This means that their education will be stunted, and they won't progress to secondary school.

If we can improve reading and writing right from the start of school, we will see benefits throughout a child's school life, and later in society and the economy at large.

DESCRIPTION OF INNOVATION

"Hadithi Hadithi!" means "Story Story!" and it's what a Kenyan grandmother calls to her grandchildren when she calls them around the fire to tell them a story. It's the name of our literacy app for children aged 5-8, and it's made up of hundreds of stories, written by teachers, read by actors, and illustrated by artists all over East Africa.

With each story is a set of comprehension, spelling and letter tracing apps that combine to make up the Reading to Learn pedagogy, shown to improve progress in reading and writing four times faster than traditional methods.

By teaching children to read in our own languages, by creating stories and illustrations that we can relate to, read in voices that are familiar to us, we can help millions of children learn to read and write fluently all across Africa.

UNIQUE OUTCOMES AND IMPACT

Over the last two years, we have created five literacy apps in different languages for schools in Kenya and Uganda, that are now being used by tens of thousands of children. Our android version helps parents read with their children on their phones.

Last year, we created the first Somali literacy app which was designed for Dadaab Refugee Camp, with stories from their community. It was used by thousands of youth who had missed out on school.

Incredibly, we saw over four times faster improvement in reading fluency in our community education centres compared to other centres. Now that app is used in over 100 schools across Somalia.

REPLICATION AND SUSTAINABILITY

When we began this project, we tracked down a US company that had similar apps to teach English. They wanted $1 million to create similar apps in different languages.

Our technology allows us to create apps in any language for just $40,000 less than 5% of what it would cost just five years ago. By using newer technologies and engaging Kenyan developers we can create world-beating apps right here.

We are already piloting in two provinces in South Africa that will be the foundation for Zulu and Xhosa apps, and we plan Nigerian versions in Hausa, Yoruba and Ibo. By 2022, there will be 10 Hadithi Hadithi! apps all across Africa.

PROBLEM BEING SOLVED

This innovation seeks primarily to ensure that every Child regardless of their geographic location has access to quality education. As such will enhance grass root education through the provision of an integrated ICT and digital curriculum for young people between the ages of 4 -35 by utilizing the solar classroom a sustainable ICT platform with an extreme Low Energy consumption, a power solution that mitigates the energy wasted by AC/DC inverter-based equivalents. The patent pending technologies allow you to deploy ICT and related systems in a fully off-grid configuration using direct and stored power from renewable energy.

DESCRIPTION OF INNOVATION

the Technology deliver a solar powered containerized facility to operate completely off-grid while improving educational through utilizing a sustainable ICT platform. Technology will deliver ECDL Foundation and SACE Endorsed Integrated ICT and Digital Literacy Curriculum for ages 4 – 35. in computer software and internet applications, programs to support the development of leadership, communication, entrepreneurship training and business development support. Practical experience in multimedia technology and video production. Facility Accommodate up to 40 learners Modular Building

UNIQUE OUTCOMES AND IMPACT

* 1.5 million young people reached in 2014, over 2 million since launch

* Engagement across 13 languages, in Africa

* Global recognition from the young African innovation and Tech Museum of Innovation.

* increase access for youth in deprived communities to learn computer science, empowering them to achieve more for themselves, their families and their communities.

* Bridge the Education Divide, by investing in children's future and bring schools to our rural areas.

REPLICATION AND SUSTAINABILITY

The EMIS software will allow us to manage and sustained the output/impact of the solution as well as the monitoring and evaluation. Our monitoring software will prompt us should there be any irregularities with system. The innovation can be upscaled and replicated by Embracing blended learning, Supporting start-ups and private sector innovation, Disrupting funding models to sustain quality, low-cost edtech innovation, Facilitating improvement through the introduction of policy documents and education laws.

walexngng@gmail.com | Maxwell Adew

IMMERSIVE EDUCATION

M A U R I T I U S
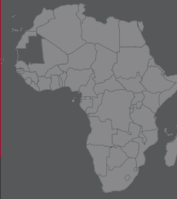
PROBLEM BEING SOLVED

One in Five Children, Adolescents and Youth is Out of School (UNESCO). VirtuaL REALITY has the potential to make learning more interesting and dynamic. VR can be leveraged to enhance pupils' engagement in the learning process, thereby contribute to contain and eventually reduce the dropout rate. Students will acquire knowledge in a participatory manner, instead of passively. VR is already well-known and highly exploited in the entertainment industry. We are persuaded that VR has a huge potential in education. It will not replace existing educational methods or systems but it will be a powerful complementary pedagogical tool.

DESCRIPTION OF INNOVATION

As humans, we have always used visually-based means to help us remember things. VR is the next logical step in the evolution of visual learning. According to the "Cone of Learning", developed by the National Training Laboratory, most students only remember about 10% of what they read from textbooks.

However, they retain nearly 90% of what they learn through teaching others. Virtual Reality is the medium that can enhance learning by making it more memorable. For example, Nqileni Village, the home of the Bulungula Incubator, is so remotely located that students are not exposed to the wider world. Now, Virtual Reality is giving the children the opportunity to explore the world and "travel" for the very first time in their life. VR is a great tool to teach geography, to mention but one instance. Students might have difficulties grasping the concept of a volcano looking at 2D photographs in school textbooks. They might not be able to grasp what the teacher is talking about, especially if they live in a country where volcanic eruptions are unknown. VR is a fantastic way to "immerse" students in the eruption of a volcano. By using VR students can improve their learning capabilities as well as their grades.

Please watch this video for more information: https://youtu.be/ZRWe3f-8bnc. In places, where internet access is very limited, our proposed solution enables teachers to use the offline mode.

And the introduction of Google Expeditions by AfriEDX at Père Laval School, St Croix, Mauritius.
https://www.youtube.com/watch?v=T1pCp7hS2_4

UNIQUE OUTCOMES AND IMPACT

Through Google Expedition, we are have the merit of circumventing one of the major weaknesses of VR in the context of its utilization by children. Normally, the user is the only master in control of the VR headsets. Thus, as parents, we cannot always know what our children are watching. Given the nature of the internet, it is a wide-open door to risky, if not flatly undesirable, experiences. However, Google Expeditions offers us the means, ability including the safety to channel the user to the purpose of use and to have control over both contents and duration of viewing.

That's a big difference!

REPLICATION AND SUSTAINABILITY

1. There is a strong training component to the project. Teachers are trained to contribute in the creation of VR educational contents using online collaboration tools that can be shared with other schools. The pedagogical model is reproducible and applicable over a long time.

2. The forthcoming Virtual Reality (VR) Demystified book that I'm writing focuses on Virtual Reality (VR) in education. Please visit www.demyztified.com for more details.

3. To sustain the projects, we are organising workshops for schools, teachers, lecturers, universities, students etc. Please watch our recent workshop: https://www.youtube.com/watch?v=i6n8BPrNPKQ

PROBLEM BEING SOLVED

Overtime, there have been recurrent campaigns by organizations towards raising awareness for, and promoting quality education, and ensuring inclusion in Nigeria. However, research has shown through appropriate monitoring and evaluation processes that majority of these projects have little to no impact on its intended beneficiaries, this is because, higher percentage of these beneficiaries can neither access, understand, nor relate to the message and its medium due to existing barriers such as; language, access to the Internet. Most children are also unable to read and write and have no practical learning nor educational interest.

DESCRIPTION OF INNOVATION

We strategically implement indefinite art and illustrative story telling as our tool to drive our message and penetrate our target communities.

We have created an illustration book and a short film adaptation titled IVY, which depicts the consequences of child marriage and importance of investing in education.

Our core focus is; indigenous theatre which involves role play, dance, music, and radio and interactive dialogues between project managers and stakeholders and the role play which will be presented by the locals of these communities in indigenous language for easier understanding. Because we understand language barriers as it relates to these communities, our project uses digital tools to translate this film and book which is an e-book and paperback production into indigenous languages for understanding. We create short films and short illustrative stories depicting the teaching we want and develop it to share people in rural communities usually for free. With our illustrative and visual stories, people are able to understand what is taught in clear, concise methods. Our project is quite innovative as it presents clear messages in the simplest and most natural form, entertaining and educating our beneficiaries.

Also the project psychologically compels her beneficiaries into owning these messages seeing as it are presented by day-to-day indigenous folks of these communities. Through these specifically tailored indigenous art forms, the project will address issues bordering around but not limited to child marriage, HIV/AIDS, subjects in school curriculum, civic participation, human rights, science and coding.

UNIQUE OUTCOMES AND IMPACT

August 2018, we reached over 10,000 people and distributed the illustration book to over 24,300 students in Nigeria, we shared digital pictures of the book on our social media pages and a sponsorship from an International nonprofit to distribute paperback copies of the illustration book to children in rural communities to 57,500 people and enrolled 31 children to school.

We made a short film adaptation which has been translated into indigenous languages and the film viewed at the InShort film International Festival, 2018 to over 11,000 people.

We reached over 100,000 people in Nigeria in 2019 and Gambia, Ghana have registered to replicate.

REPLICATION AND SUSTAINABILITY

With the mobile app, as an unrestricted tool, people from different parts of the world can be able to access and share ideas, artists; will digitally share illustrative books, short films to translate theoretical texts into practical learning materials for children.

Teachers all over will be trained online, mentored, share ideas. Coding clubs opened in schools , a digital bookstore to access all materials from students on the app.

We have created a market that sells customized items to clients at a premium price. Items like shirts, mugs, stickers, caps, kitchen apron, exercise books, jotters and art pieces. Downloads of the app, fees paid.

INITIATIVE JUMUISHA TANZANIA

TANZANIA
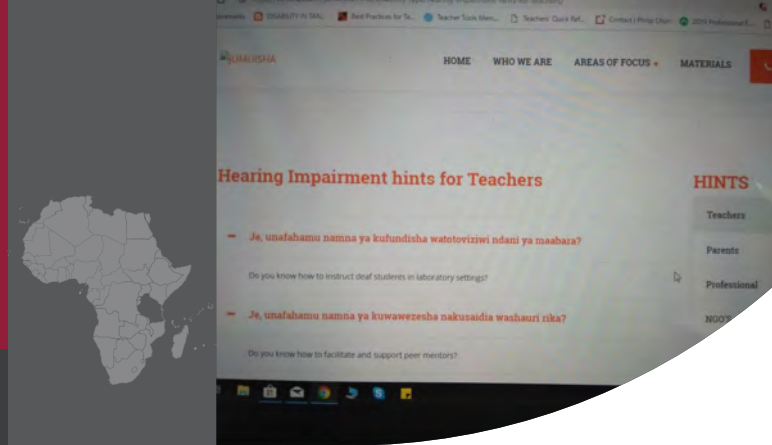
PROBLEM BEING SOLVED

After working for disability programs in Tanzania I realized; continuous staff development programs are not offered to special education teachers, there are shortages in special needs and inclusive education teacher training – the capacity institutions is low in relation to current needs. It is estimated less than 1% of teachers have any knowledge of special educational needs even these teachers lack pedagogical skills and knowledge involved in inclusive teaching and learning processes. The curricula are not designed in line with the principles and practice of inclusive education. Teacher education strongly emphasizes in general teaching.

DESCRIPTION OF INNOVATION

ASET-KIE (Advancing Special Education Teachers' Knowledge on Inclusive Education) under JUMUISHA TANZANIA INITIATIVE (www.jumuisha.co.tz), Jumuisha is Swahili word meaning "to include" hence inclusion. This comes as an online library and innovative learning network to support Continuous Staff Development programs among teachers in Tanzania, so they continue to learn even after they graduate and go into a teaching career. The platform has four types of disabilities – hearing impairment, visual impairment, physical impairment and intellectual impairment. For each type of disability, there are categories (teachers, parents, government workers and NGO staff). Under each category there are sets of questions based on their field of expertise, these are being classified as "Do you know" Questions which are in Swahili and English. For example, a teacher can click on the Hearing Impairment, and choose a question; Do you know how to instruct deaf students in a laboratory setting? Once he/she has clicked the question, it will open a PDF with details and things to do while instructing deaf students in an inclusive laboratory setting. If the teacher feels the materials are not enough then they can write to the Jumuisha team on their experience in instructing deaf students in the laboratory, these will be evaluated and later be uploaded on the website. Basically, these will act as best practices from teachers across the country whereby other teachers can learn and apply the same in the classroom.

UNIQUE OUTCOMES AND IMPACT

Initially, this innovation was presented as an application for the ADA international fellowship programme on Inclusive Education in the United States and was selected by the U.S Department of States as an outbound project and mentors from the University of South Dakota visited Tanzania for further support and the Gallaudet University has accepted to transcribe and use their online materials. Currently, at it's designing and inception stages, the innovation was redesigned and presented to students at the largest special education teachers' colleges in Tanzania (Patandi Special Education Teachers College and Sebastian Kulowa Memorial University

REPLICATION AND SUSTAINABILITY

In 2018, the idea was selected for presentation at the 6th Annual African Disability Rights Conference on Inclusive Education in South Africa. This innovation can be upscaled and sustained by having the materials in a variety of languages – to suit the country's population, by enrolling volunteers to transcribe materials for the platform, involving the government education departments, advertise the innovation and seek support from stakeholders, encourage teachers to interact and use the platform. For its replication, research on gaps in the disability education sector and disability culture should be conducted in the respective country.

PROBLEM BEING SOLVED

One of the biggest challenges in education is access to affordable, relevant textbooks in a convenient and timely manner. This is more often due to the distribution challenges Kenya faces, but also because most families cannot afford all the required textbooks a child needs at the beginning of the school term as required. Most students end up sharing textbooks in class or just listen to the teachers and have no reference points for revision or assignments once the class is finished. This lack of learning resource has been at the heart of low numeracy and literacy levels in most schools accroos Kenya.

DESCRIPTION OF INNOVATION

Kytabu is a mobile application containing all the books required for students in primary and secondary school in the Kenyan education system. Using a tablet or smart phone, any student anywhere can easily download the free app, select the books they would like to use, download them to their device, and rent the book for as little as $0.01 a day. With Kenya having a mobile phone penetration of more than 70% and a government program that put more than one (1) million tablets in low income schools, access to devices has been drastically reduced. This means that the Kytabu application has the potential to help more than 1 million students access all the learning reasources they would need affordable, conveniently and in anyt price range they are able to manage. Renting content as opposed to buying it outright reduces the pressure for parents, increases the accessibility for students and schools, removes constraints on teachers as the sole source of learning material and gives valuable insights to publishers and the government on the use of learning content by students.

UNIQUE OUTCOMES AND IMPACT

- Providing access to the learning content students need in the areas we have been adopted has increased the number of students that have books, amount of time the students engage with the content and each other on learning, the various forms of content they engage with (they have access to audiobooks, videos and interactive exams on the app) and all this has improved their overall learning experience and performance in school.

- Giving student both the content and platform to driver their own leaning experience empowers them to take ownership of their learning trajectory and this improves as more students get on Kytabu and collaborate.

REPLICATION AND SUSTAINABILITY

Because Kytabu is a mobile application, it can be scaled exponentially countrywide through the partnership of private sector stakeholders such as mobile service providers. To move from one country to another, Kytabu as a platform would only need to partner with the local country publishers to add their content to the platform for digital distribution. Instantly, the application can them move from Kenya to Tanzania, Uganda, Rwanda and even Francophone countries where the content is available in digital format. The growth of mobile phone access and mobile payments has given apps like Kytabu the framework to scale exponentially.

tonee@kytabu.com | Tonee Ndungu

MATHSGEE.COM

Z I M B A B W E
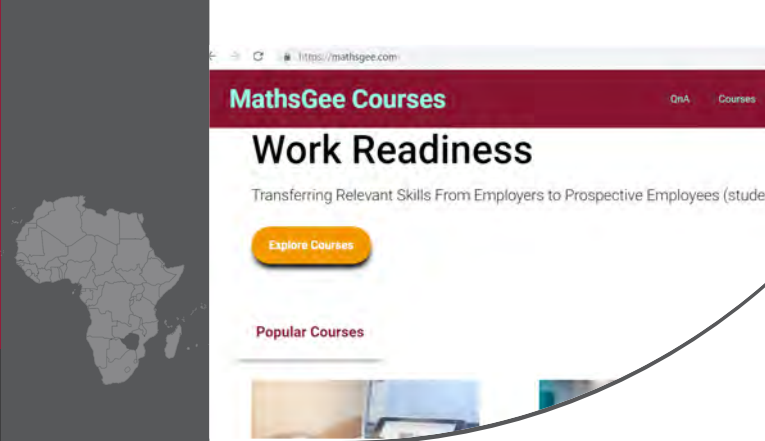
PROBLEM BEING SOLVED

MathsGee is solving the mismatch of skills expectations between employers and prospective employees (students) which leads to:

1. A small employable talent pool
2. Long and expensive onboarding process
3. High unemployment

DESCRIPTION OF INNOVATION

An online bank, https://mathsgee.com for the facilitation of exchange of knowledge between course co-creators (employers) and students (prospective employees) driven by unemployed youths (instructional designers) with the objective of:

1. Increasing the employable talent pool.
2. Reducing onboarding time.
3. Connecting unemployed youth with employers as authors

UNIQUE OUTCOMES AND IMPACT

1. Poverty reduction/economic empowerment
2. Income increase for the once unemployed
3. Reduction in onboarding time
4. Increase in employable talent pool
5. Cost saving for employers
6. Greater cooperation between universities, government and employers
7. Free education

REPLICATION AND SUSTAINABILITY

MathsGee is an online platform which can be accessed form every African country. The focus will be on having in-country representatives who liaise with companies in the different territories and also ensure that all African languages are included.

PROBLEM BEING SOLVED

Despite the high literacy rate in Zimbabwe and some parts of Africa, the concerning thing are the low passrates e.g this year(2019) the 0'level passrates was 32% in Zimbabwe next-door in South Africa it was about 84%. Pass rates really no longer matter our industries tell that story. The issue is lack of quality education and education in general in some parts of the world. Visit www.mawtech.ga

DESCRIPTION OF INNOVATION

Augumented reality (AR) is a technology that enhances reality i.e it adds on top of reality, mixing the virtual world with the real world. So we have managed to develop an AR android application able to scan using the device's camera. So the app has a support booklet which gives information about the product to be scanned. The booklet will vary in terms of information. Some for will be for animals, fruits, cities, experiments, transport systems, bridges, etc. So you launch(open) the app on your mobile device and scan the qr code on respective pages on the booklet. Features we want to add on the AR app include 1. sound features for animals and transportation 2. Environment detection for the products being scanned, all this will improve the experience. Virtual reality is a technology that creates virtual experiences, it avails what is not present physically to be seen with the use of virtual lens. So we want to leverage on this technology to curate virtual trips for users. Users will be able to tour cities, world wonders, tour research institutions, airports, experiments, etc. Though all this will come to be step by step. This will be achieved through the use of virtual lens (googles like wearable). Cloud computing is a revolutionary technology that helps in storage of data. The education sector spends a lot of resources, money which can be easily saved and directed elsewhere. Though this is a long term vision we looking forward to be the Dropbox of education. Visit www.mawtech.ga

UNIQUE OUTCOMES AND IMPACT

Our products are very unique combination it's improving the way non STEM subjects are being taught at the same time exposing users to technology and innovation.We using and want to use Extended Realities (virtual reality, augmented reality and mixed reality) and cloud computing improve and better the learning process. Through Extended Realities we enhance and help learning become more visual. Through cloud computing we want to build an education cloud for education related stuff. Visit www.mawtech.ga

REPLICATION AND SUSTAINABILITY

Zimbabwe has over 3000 primary schools and over 1000 high schools each school with a cumulative enrollment of about 500 students all of which can leverage on our products to improve their services. Furthermore more there are people in need of our products yet not enrolled with any school. Scaling this to 54 African countries who also can leverage on our products. The cloud platform in particular is in need, hence can be scaled through adoption by more users and of cause a strong capital.

Visit www.mawtech.ga

PROBLEM BEING SOLVED

Half of young people in Sub-Saharan Africa, the largest part of the population, are born into poverty, growing up in communities that offer little hope. Far from having ethical role-models, they often don't believe that they have purpose, potential nor equal value to others. Resulting in: Youth un-employability and unemployment; Unbroken cycles of poverty fuelled by crime, orphanhood and increasing youth anarchy and lack of citizenship; Endemic youth risk behaviour(eg HIV; teen pregnancy; substance abuse; gender violence) leading to a growing unsustainable health and education burden. Africa's hope lies in investing in disenfranchised youth.

DESCRIPTION OF INNOVATION

gold-youth, an award-winning organisation with an evidence based solution, is creating a movement to embed long-term peer role models/ mentors into all schools and communities, changing the system of youth education and upbringing in Africa. We're transforming the role of youth from being passive recipients of negative norms to proactive social and economic change agents who assume the role of empowering themselves and their peers to lead tomorrow. Our theory of change is supported by rigorous evaluation, demonstrated by results. A digital training suite of resources and tools, Peer2Peer, has been designed as a DIY product for scalability of the good practices associated with the gold Peer Education Model, available online, through the Teachable platform, as a 'Digital Peer Education How To" with supporting guides & videos'. (https://gold-enterprises.teachable.com/?utm_campaign=purchase_notification&utm_medium=email&utm_source=student_mailer)

The Innovation tackles the complex social dynamics of poverty and its impact on education and youth development by increasing knowledge and skills that enable youth to challenge the determinants hindering their social behaviour, education and future opportunities.

Teachers and youth use the digital course, content and videos to implement peer education programmes with adolescents and tweens at grassroots. Peer Educators are taught to model positive decision-making and educate their Peers to make positive choices, strengthen their school work and maximize community impact. We're developing a complimentary e-learning version of our accredited 'How to implement peer education' course.

UNIQUE OUTCOMES AND IMPACT

Through Peer2Peer we have packaged the key curriculum and lessons from the gold Model's 15 year track record, with concrete results in social behaviour change, improved education and job creation across 123 communities. This digital/print toolkit has gone live in 2019 to serve multiple stakeholders, in their context. In a short time, its easy availability on the Teachable platform, has enabled youth and schools from four countries to access best practices, training manuals and videos, enabling them to implement structured peer education programmes. Approximate beneficiary reach in May 2019 will be 3840, and uptake is increasing.

REPLICATION AND SUSTAINABILITY

Peer2Peer was designed for systemic scale, leveraging the best practices from the gold Model packaged into a tested DIY ICT product/ training suite for wide use by most crucial possible replicators (other CBOs, education system/government) and available for open dissemination. Our social enterprise business model allows for sustainable ongoing refinement, and improved scale, supported by on demand training and consulting services. Free licenses for government and NGOs have been successfully piloted. Peer2Peer is part of our system change rapid scale up plan for the quality assured gold Model as well as DIY Peer2Peer across Africa.
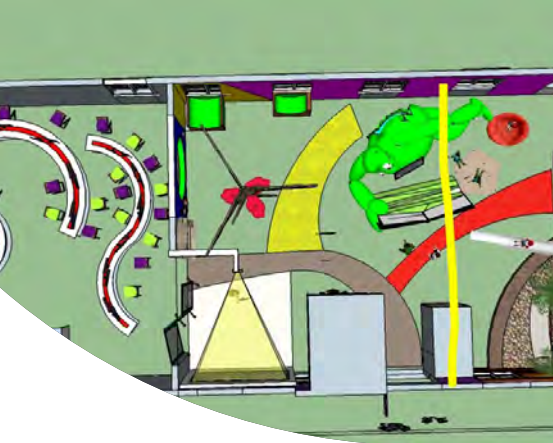
PROBLEM BEING SOLVED

Although there are libraries in all Namibian schools, more than 80% of the school libraries lack adequate resources especially reading books to extend children's knowledge NengomashaT, Uutoni, W, & Yule, W (2012). Some of the factors contributing to the lack of functional school libraries in Namibian government schools include the deployment of untrained librarians, the lack of qualified librarians, and the lack of reading books.

These schools are attended by previously Socially Disadvantaged Children. There are not many ICT opportunities compared to elite schools 'Private Schools.'

DESCRIPTION OF INNOVATION

The People's Primary School (PPS) Interactive Tech Library project aims to increase the Namibian reading culture through enhancing reading experiences of children in Namibia. It has been exploring appropriate technology tools to improve reading experiences of children in Namibia. Investing in a Tech Library can embrace innovations in technology providing users with enhancements in electronic reading materials along with new forms of communication.

In some developed countries libraries are being redesigned to accommodate the students of the 21st century. While in Namibia, most public school libraries are utilized as storages which worsen the reading culture.

The PPS Interactive Tech Library is

- the first of its kind in Namibia inspired by a global movement of libraries of the future
- It contributes to Namibian Vision 2030
- was entirely co-designed by Namibian learners of PPS
- deploys technologies developed locally with and for the children
- is state of the art from an educational and technology perspective
- will be a model library for other schools in Namibia and all over Africa
-

https://www.youtube.com/watch?v=Dee9P1nMTHs

UNIQUE OUTCOMES AND IMPACT

Technologies were codesigned with target vulnerable groups and Previously Socially disadvantaged people. The technologies consider the learners needs and preferences for examples: Treasure hunts which satisfy children's need of movements; spin the bottle reading game which promote individual, collective and socially reading, in a form of a game and a talking flower which incorporate emotional interactions. These technologies are low cost and are easily adaptable. They can be deployed in many other future tech libraries. The designed learning technology tools provide fresh opportunities for teaching and learning, in communities where I

REPLICATION AND SUSTAINABILITY

The learners became co-designers, they learned extracurricular skills. The People's Primary School (PPS) Interactive Tech Library pilot is to be implemented in other schools nationwide. The PPS Interactive Tech Library project was endorsed by the Namibian Ministry of Education, the school Principal and staff.

Collaboration with NUST ensuring technology maintenance, and development through student's interns.

The PPS Tech library will be a model library for other schools in Namibia and the region.

Model can be replicated and implement in other schools nationwide and internationally.

yambekachildren@gmail.com | Helvi Wheeler

PORTABLE MINI SOLAR COMPUTER LAB

SOUTH AFRICA

PROBLEM BEING SOLVED

Teachers are expected to prepare students for the jobs of tomorrow as such the big question on every teacher's mind is how do I prepare my students to take advantage of the jobs of tomorrow? How do I use technology as a catalyst to improve the quality of education? Sadly, in countries such as South Africa only 40.9% of public schools have computer labs and only 28% of those computer labs are being utilized, mainly because most teachers are not computer literate. This problem results in many students leaving the education systems without digital literacy.

DESCRIPTION OF INNOVATION

a portable computer Solar-lab-in-a-bag that can convert normal classrooms into temporal computer labs empowering teachers to improve the quality of education by equipping them with digital literacy skills on how they can integrate ICT within their classrooms to adequately prepare students for the fourth-industrial-Revolution using Internet-of-Things (IOT). This in-turn empowers learners to improve their grades, gain university entry, and are prepared to take opportunities for the Jobs of tomorrow in Big Data, Block chain and Artificial intelligence. We do this we believe it is not enough to just provide schools with technology but to adequately train teachers and students to use the technology by providing schools with digital resources such as E-learning digital library, tablets, and a solar charging station.

UNIQUE OUTCOMES AND IMPACT

We empower teachers to improve the quality of education with digital-literacy skills and resources on how they can use the internet-of-things, Artificial-intelligence and augmented reality to use technology as a catalyst to prepare students for the jobs-of-tomorrow and we link unemployed youth to online employment opportunities.

This in-turn empowers learners to improve their grades, gain university entry, and are prepared to take opportunities for the Jobs of tomorrow in Big Data, Block chain and Artificial intelligence. education more accessible especially for children and youth studying in under-resourced rural and peri urban schools.

REPLICATION AND SUSTAINABILITY

Our portable mini solar lab accommodate most of the rural and township areas in Africa that do not have electricity by using renewable solar energy.

Secondly, it is an integrated solution providing schools, Teachers and students with digital literacy skills and resources and our app allows teachers to create their own content and students to share notes and best study strategies on our platform.

Lastly it's portable design allow easy transportation allowing teachers to move it from one classroom to the next transform the classroom into an instant computer lab with wifi connectivity and ANTI-Theft software.

PROBLEM BEING SOLVED

More than 52% of the population is offline(not accessing internet). For this reason, world possible innovate offline digital library for schools and community in order to bridge the gap of accessing best educational materials and knowledge between the online population and offline population.

DESCRIPTION OF INNOVATION

Our offline digital library is also called RACHEL(Remote Areas and Community Hotspot for Education and Learning). RACHEL is a server that is small in size (10cm by 10cm by 2cm)and weigh with less than one kilogram of weight.

RACHEL connects to other smart devices such as phone, tablets, computers, laptop, through wired or wireless(Wi-Fi). Our learning resources are stored in the Rachel internal hard disk drive of 500GB -1TB storage capacity. This means that this offline digital library can store thousands of learning videos, millions of articles and documents and webpages.

UNIQUE OUTCOMES AND IMPACT

Our innovation improves learning and teaching in schools as students can easily access learning information and teachers can simplify their work by facilitating learning rather than be the only source of information

Our innovation gives life to dusty, unused computer laboratory by turning them into active and life long sustainable lab.

REPLICATION AND SUSTAINABILITY

Innovation is upscaled by looking for funds to supply in many more schools. We also sell the device to schools and Learning community. One device is at $600 per unit.

We can also replicate by getting partners in local community who can research and prepare local contents that will make the digital library customised.

We sustain the innovation by selling the server and train teacher for small fees. We also do hardware maintanance. We also place volunteers to get volunteering experience in community that we install Rachel.

jackline@worldpossible.org | Jackline John Seni

SAYANS COMPUTER

UGANDA

PROBLEM BEING SOLVED

There are fewer than 3 computers per 1,000 people; 1 person in 1,500 has access to internet (UN African Recovery Report). Uganda with about 45.71million people, only 1 million people access to computers with majority in urban areas.
This gap affects students the most and limits their learning outcomes.

Coupled with other factors, rural students perform poorly especially in STEM subjects because students only rely on notes given in class. Rural secondary schools constituting 57.6% in Uganda are challenged with educational books and resources with no or ill equipped science laboratories and yet have no access to computers and internet.

DESCRIPTION OF INNOVATION

Picture a time when every home, person or school in Africa no matter where they are located has access to and/or owns a computer. When computers are not only for the rich. This is our focus.

Sayans computer is a Raspberry Pi based computer locally designed and assembled in Uganda.

Our computers are light, portable and designed for use in resource limited areas. They are installed with educational software containing a plethora of illustrative videos from Khan Academy and other sources and reading material especially for science related subjects. The software is made in a way that the installed educational material is accessed using a web browser which gives the experience and knowledge of using internet even without it. The computers also have games on typing, learning words, mathematics, physics and other areas and are great for computer programming.

The computers are installed with battery power that can last up to 8 hours of use and needs a recharge power of just 10W making them fit for areas without electricity and recharged with just a small solar power system. At the price of $200, one can get a computer, accessories and a solar charging system.

We make the casings for the computers from recycled wood or are 3D printed locally. The components we use can be sourced locally making in country productions and repairs easy and possible meaning that the computers can easily be made from any other African country and reach any rural student anywhere in Africa.

UNIQUE OUTCOMES AND IMPACT

Sayans computers come with educational software containing a collection of resources to enhance research even without internet. This means improved access to information and better learning outcomes. Secondly, our computers have a low power consumption and are installed with a long lasting battery bank. They are cheaper at both purchasing and the continuous use as they use very little power so anyone now can get a computer.

The computers are great for ICT programming and are installed already with programming software and tutorials and so better ICT development STEM learning outcomes.

REPLICATION AND SUSTAINABILITY

Raspberry Pi computers are open source technologies which means they are allowed to be used anywhere without restrictions. This means these computers can be designed anywhere in the world.

In addition, the components we use can be sourced locally within the different countries making in country productions and repairs easy and possible.

Revenues from the sale of the computers is used to produce more computers and donations from organizations are used to subsidize costs making more rural schools and families get access to computers.

PROBLEM BEING SOLVED

The problems that Scientia is addressing are the very high rate of academic failure in Gabon and Africa and the poor quality of educational content in Africa which is no longer in line with their needs of today and tomorrow.

DESCRIPTION OF INNOVATION

An efficient solution to guarantee academic success, Scientia is an easy-to-use platform accessible from your computer, tablet and/or smartphone connected to the Internet.

Scientia allows each actor of education (student, parent, teacher, administrative body of institutions and even the Ministry of Education) to have in real time all the information he needs to work effectively and thus guarantee the school success. The platform is designed to monitor and evaluate the quality of the courses taught and the degree of assimilation of students. It also helps to identify and reveal potential student gaps, as well as to identify teachers' level of competence and ability to pass on knowledge.

The platform is also designed to bring parents back to the heart of their children's education by allowing them to follow the evolution and content of classes. They are automatically alerted by SMS alerts on absences, scheduled evaluations, homework, grades obtained.

We also provide help and support to teachers and educational staff with new technologies and future-ready skills content.

We work to grow the involvement of parents in the education of their children.

We also work to increase the use of new technologies in the education system.

UNIQUE OUTCOMES AND IMPACT

- The increase in the school success rate resulting from the improvement of the quality of monitoring and the quality of school content.
- The empowerment of teachers and educational staff with new technologies and future-ready skills content with the support of Microsoft.
- The growing involvement of parents in the education of their children.
- The increasing use of new technologies in the education system.

REPLICATION AND SUSTAINABILITY

Scientia is a web platform available everywhere in the world. We are also connected with an SMS provider who allows us to send SMS everywhere in the world. All the training and courses that we provide are available on the platform.

agangditlhogo@yahoo.co.uk | Edouard Claude GNIAGOGNIENIE OUSSOU

SCOLARYX EDUCATIONAL BOX

CAMEROUN

PROBLEM BEING SOLVED

In Cameroon, 4 over 10 young people are out of school, tuition fees are extremely high at around 85% of GDP per inhabitant, only 54% of teachers deployed in secondary education are qualified, the security context comes more tarnish the following statistics especially as: The North is plagued by the exactions of terrorism, the East is stormed by refugees from the Central African Republic, the North-West and South-West are the scene of instabilities due to separatist inclinations. In addition, secondary education must also raise the issue of equity and quality. All that precedes depicts a reality: Quality Education is not yet effective.

DESCRIPTION OF INNOVATION

Our educational Box is a micro server containing the equivalent of 10,000 lessons available offline. Its administration is relatively simple and can be done by the Head of the School, the learner or a Parent. The Box SCOLARYX contains a Wifi card through which you can connect with a computer and access educational content without internet. This lightweight, powerful and inexpensive micro server locally contains the SCOLARYX Educational Software completely developed by our Engineers as well as all the educational contents necessary for the learners. The Scolaryx mini box also has HDMI access for classroom class screenings.

SCOLARYX can be used with a mobile phone or tablet as well, and thus enjoys the intuitiveness of mobile technologies to enable learners to feel the reality they are entering in the classroom. The diversity of educational resources (videos, animations, sounds, quizzes, games, etc.) offers learners an exhilarating learning experience.

UNIQUE OUTCOMES AND IMPACT

In Africa, internet access remains difficult, especially in areas with low enrollment rates. Educational Box SCOLARYX is deployed to allow students to have local access to lessons and exercises without need to be connected to the internet.

To date, SCOLARYX is deployed throughout the Cameroonian territory and a pilot version is being tested in N'Djamena (Chad). Nearly 1000 learners trust us (mostly from risky areas), and have access to more than 10,000 educational resources including audio lessons, texts, videos. We have a network of 30 teachers who ensure the development of courses and remote monitoring of learners.

REPLICATION AND SUSTAINABILITY

The Core of Scolaryx is a software developed by our engineers. It has been designed with the flexibility, adaptability and intuitivity necessary to make it reproducible whatever the context and the educational curriculum. This core does not undergo any variation from one country to another. We deploy the same design and build technologies and the same electronics to build the Box.

The only change to move from one country to another lies in educational programs that vary. It is then important to set up a network of Teachers for the elaboration of course contents according to the specificities of the pedagogic curriculum of each country.
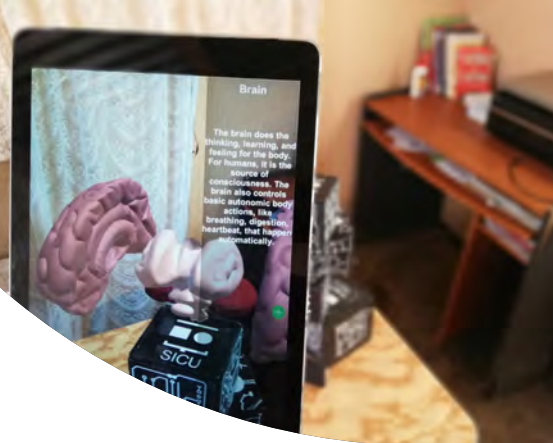
PROBLEM BEING SOLVED

80% of public schools in South Africa don't have a science laboratory that means 9.6 million learners will complete their science studies without acquiring necessary practical skills that they can use to get a job or be able to solve the challenges the face. The World Economic Forum cites that 65% of children entering school today will work in a completely new job type(which is STEM-related) that does not exist today. Failure to solve this problem will increase our youth unemployment rate which is currently at 38.2%.

DESCRIPTION OF INNOVATION

Si realities is a virtual science laboratory for science learners from Grade 4 to 12. It allows the learner to perform the experiments by just using the camera of their smartphone and tablet to project a virtual science apparatus in front of the learners. The learner can just perform the experiment just using tablet. Si realities aims to make science engaging, fun and accessible to millions of learners in Africa. Our approach is to make Si realities a self-learning platform that any learner could log in and begin learning on and off the class room.

UNIQUE OUTCOMES AND IMPACT

In 2018 we have reached 200 learners who have indicated that Si realities makes them understand abstract science concepts and 59 teachers who said Si realities will improve the engagement in the classroom and it's easy to be integrated with the curriculum and the pace setter. We are currently piloting with 8 schools.

REPLICATION AND SUSTAINABILITY

Si realities comes with two version namely the personal version and the school version. The School version contains experiments that are curriculum-aligned and delivered directly to schools. While the personal version contains experiments from the school version with additional experiments from science experiments. It can be downloaded from popular App Store such as Google Playstore and Apple App Store. We want the learner to Explore, Experiment and Learn anywhere and anytime.

Our revenue model for personal version is based on freemium model, we also sell merchandise while the school version we make money through licences.

SUACODE

G H A N A

PROBLEM BEING SOLVED

According to the International Telecommunication Union (ITU), ICTs form the backbone of today's digital economy and have enormous potential to fast forward progress on the SDGs and improve people's lives. Africa lags behind the rest of the world in terms of digital literacy. According to SAP, less than 1% of African children leave school with basic coding skills. One cause of this gap is poor access to equipment such as computers for teaching and learning. According to research firm Ovum, there will be 929.9 million smartphones by the year 2021. Hence, smartphones provide a unique means of reaching the unreached.

DESCRIPTION OF INNOVATION

Our program, SuaCode aims to address Africa's digital gap by introducing students in Africa to coding through smartphones. SuaCode is a smartphone-based online coding course that aims to teach millions across Africa how to code by exploiting the proliferation and untapped capabilities of smartphones. SuaCode is run by Nsesa Foundation, an education nonprofit in Ghana whose vision is to spur an "Innovation Revolution" across Africa by training the next generation of African innovators. Learners in SuaCode are introduced to basic coding using their smartphones in the Processing language, an open-source interactive programming language based on Java. The course is peer-reviewed and based on Dartmouth College's Intro to Programming Course. SuaCode is currently hosted on Google Classroom, a free learning management system that can run offline and consists of lesson notes, exercises and assignments, which culminate in a final project - building a pong game. When a student signs up, she tries out the exercises using the app as she reads the lesson notes offline. After going through each lesson note, she completes the assignment for the lesson using the Android Processing Development Environment app and submits it for grading. At the end of the course, students that score the pass mark receive a certificate and exceptional students have mentoring sessions with our network of Software Engineers at top tech companies like Google and Facebook to help them proceed to the next step in their development. SuaCode also helps students continue their coding journey by recommending advanced courses like Data Structures, Algorithms, etc.

UNIQUE OUTCOMES AND IMPACT

According to ITU, mobile learning has the ability to help break down economic, rural-urban and gender divides. We believe SuaCode will go a long way to bring coding skills within arms reach of people across Africa, literally into their palms. Soon, young people all over Africa will be spending as much time coding on their smartphones as they do on social media. The government and private sector are struggling to fill positions for people with coding skills. This skill set also presents excellent entrepreneurial opportunities. Hence, SuaCode is a unique solution to tackle the problem of unemployment for the 29.1 million youth across Africa.

REPLICATION AND SUSTAINABILITY

Our main target market is the 54.2 million high school and college students out of the 203.2 million students in Africa. We have won two successive fellowships from the Processing Foundation to support this work. In 2018, we ran a pilot of the course with 30 students. In 2019, we plan to run 3 cohorts with 100 students and also to build an AI-powered automated system to give feedback to students and grade their assignments to make our solution even more scalable. In 2020, we plan to run 12 cohorts per year with a target of one hundred students per cohort. We plan to scale to 1,000 learners per cohort in 2021 and 10,000 learners per cohort.

PROBLEM BEING SOLVED

The lack of digital literacy and early child technology curriculum is a challenge in Africa especially for rural areas. In Botswana particularly, the current academic structures lack technology educational resources i.e. (computing equipment, tailored curriculum and communication infrastructure) especially in rural areas. Lack of these resources results in failure to deliver the much-needed curriculum to potential future technology innovators. Also, as a challenge there is evidence that the involvement of the girl child in science and technology fields is scarce as compared to their male counterparts.

DESCRIPTION OF INNOVATION

I am co-founder of The Clicking Generation- ICT Academy for kids and teens; a social enterprise that offers computing and technology curriculum to underprivileged kids and teens in both urban and rural areas of Botswana. The approved curriculum offers Science, Technology, Engineering and Mathematics (STEM) to learners who are future technology creators of socially relevant ICT solutions. The Clicking Generation initiatives employs age appropriate, interactive and fun filled exploration of technology based concepts for kids and teens.

The vision is to contribute substantially to ICT development and literacy among youngsters in Botswana in-turn birthing a generation of creatives and technology innovators. The goal is to close the existing technology education gaps by introducing kids and teens to computers, systems design and logic thinking while still in their exploratory ages. This instills interest in the learners to familiarize with the technology evolving around them. The digital economy and 4th Industrial evolution is upon us and young Africans should be equipped to contribute to the global digital economy.

UNIQUE OUTCOMES AND IMPACT

The Clicking Generation will forge forward and inspire young people in our community further by sharing experiences and global perceptions through innovative platforms of engagement. As technology youth advocate for women and girls, we hope for more women and girls to not only participate but have increased representation in the technology industry. We hope young people participation to the economy may be realized through the digital literacy efforts.

The impact to individual learners include enhanced memory skills, problem solving abilities, structured knowledge, increased creativity and overall academic success.

REPLICATION AND SUSTAINABILITY

The dream in the next 5 years is to have The Clicking Generation expanding its operations to more rural areas and even spreading through the region. We hope to contribute in tackling the education crisis both locally and regionally. This will be possible through modelling the existing design to other rural areas and reach more demographics.

THE iSCHOOL CLOUD

NIGERIA

PROBLEM BEING SOLVED

Across Africa, the number of out-of-school children is escalating. Many among those that are in school are being tutored by incompetent teachers. As sub-standard private schools sprout up everywhere, it is rather impossible for governments to regulate, monitor and assess the quality of education from early years to primary, secondary and tertiary. And these non-government schools hardly use prescribed curricular and learning models. Textbooks that can be considered as adequate for learning in this age are way too expensive.

DESCRIPTION OF INNOVATION

The iSchool CLOUD Framework is a complete computerization solution for education.

By implementing simple but effective Artificial Intelligence and Virtual Reality concepts, It makes it possible for established schools to enroll hundreds of thousands of more students from outside their immediate geographical locations into their Virtual School programs. This system allows standard schools to partner with individual tutors and smaller schools in remote locations and less-privileged areas, given them access to the schools' resources to use in their own classrooms.

For example, a village teacher that gathers his/her pupils under the shade of a tree can now connect to the virtual classroom of a bigger, established partner school (even in another country) and use their lesson plans and notes to teach his/her own pupils.

Not only that, these children (in remote, less-privelged areas) will be bonafide students of the partner schools as they will be enrolled into their systems and have all their leaning activities graded.

As for governments, The iSchool CLOUD now makes it possible for regulatory / supervisory officers to carry out their oversight functions remotely.

Inspectors can now sit back in their offices and access all crucial processes of all schools under their jurisdictions through the screen of their computers!

Also, The iSchool CLOUD is fast-tracking the evolution of textbooks with MultiBOOK Project. Presently, we are test-running the first 1,000 MultiBOOKs which are interactive, dynamic rich-multimedia contents for each topic in all major curricular for early years and primary / secondary schools.

UNIQUE OUTCOMES AND IMPACT

Since 2010, we have put The iSchool CLOUD in some 23 private schools across Nigeria and it has helped most of these schools to cut their costs of operation by at least 50% while at the same time, helping them to increase their general efficiency rates by more than 100%!

Another area where The iSchool CLOUD is helping schools is the issue of teachers' incompetence. With the proactive AI assistance teacher feature, it helps teachers to avoid basic mistakes.

It also enables parents to get more involved in their children's day-to-day school lives as they can now take moments of work to check into their children's schools through the Internet!

REPLICATION AND SUSTAINABILITY

Already, we have started giving out The iSchool CLOUD to schools FREE! The only payments involved are the costs of dedicated web servers (since it's cloud-based), set up and training. To replicate the solution across the continent, we have concluded a self-deployment system that will enable schools to register and start using the solution immediately. We have also started working on a web-based training portal.

To upscale The iSchool CLOUD, we shall be moving into the next phase of the project which the bold ambition to put know-it-all, always-ready-to-display-any-information robots in the classrooms as assistants to the human teachers!

PROBLEM BEING SOLVED

Rwanda Education Board (REB) developed two modalities for professional development of school leaders. The first modality is a Continuous Professional Development (CPD) Training Programme on Effective School Leadership, to equip headteachers with the competences to fulfill their roles. The second modality are Professional Learning Communities (PLCs) of headteachers to bridge the gap between theory and practice. The objective is to make the modalities mandatory for all headteachers in Rwanda at an affordable cost. With the support of VVOB – Education for Development, REB explores how to develop education leadership capacity in and through ICT.

DESCRIPTION OF INNOVATION

To provide cost-effective, flexible and personalized training, ICT is being integrated in both modalities of CPD of headteachers.

In 2018, 680 headteachers received a laptop to participate in CPD Training Programmes. The Training Programme is being re-developed for delivery in a blended modality: following a flipped learning approach, headteachers will learn the content online from their work place or homes. Face-to-face sessions will be reduced and dedicated to deepening the understanding of the content. Interactive learning activities are developed into an online learning management system (Moodle), including limited-connectivity alternatives. Trainees will be requested to compile an ePortfolio throughout the Training Programme for assessment of their achieved competences. The CPD Training Programme on Effective School Leadership is rolled out in three cohorts, reaching eventually 1360 headteachers and deputy headteachers.

At the same time, 234 Sector Education Officers (SEO), from 17 districts in Rwanda, received a tablet. A set of multimedia resources on educational topics will be available on the tablets. This digital library will be regularly updated and will support the SEOs to facilitate the PLCs of headteachers. The tablets are also equipped with eMonitoring forms developed in KoBo Toolbox, to collect data on different aspects of the PLCs, including attendance of headteachers to the PLC sessions, topics being discussed and actions taken. A dashboard on the tablet will feed back information and will allow the SEOs to keep track on their respective PLCs.

UNIQUE OUTCOMES AND IMPACT

Teachers and school leaders are two critical sets of actors in promoting the quality of education. Effective school leadership is required for the professional development of teachers and strong school leadership is fundamental to improve the quality of education.

When scaled up to the national level, this model of integrating ICT will transform capacity development of school leaders. It will reduce costs of delivery and allow headteachers to learn on their own pace, while giving them more ownership in their own learning.

REPLICATION AND SUSTAINABILITY

The innovation is being implemented by key partners in a decentralized education system. The CPD Training Programme is delivered to headteachers by lecturers of the University of Rwanda – College of Education. These lecturers received a training on e-tutoring. Quarterly PLC sessions are organized by trained SEOs in each administrative sector. The SEOs received a training on the use of the tablets and eMonitoring. These ICTs support headteachers and SEOs to take their responsibilities and promote quality of education in Rwanda. The online modalities allow REB to establish mechanisms to monitor the CPD of headteacher countrywide.

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VLABY

PROBLEM BEING SOLVED

There are many problems in traditional science labs in most African schools due to lack of facilities, equipment and chemicals, lack of time and space for do experiments, and the risk of some experiments that may cause disasters in the lab, and increase the number of students in lab , all of which prevent students from benefiting from the practical aspect in schoolsso the teacher merely explain the theory on the blackboard without do in practice, and this negatively affects the students' understanding of the equations and laws, and makes education based only on Preservation and indoctrination rather than understanding

DESCRIPTION OF INNOVATION

Vlaby is an online educational platform that for virtual labs that allows students and teachers to do all experiments and laboratory activities in an interactive online environment that simulates the traditional laboratory and has all the potentials, laboratory equipment and chemicals in an interactive and customized manner for each student according to the curriculum and experiments in science, physics, chemistry,

We have provided many benefits to students, teachers and schools such as:

- Allow students to do experiments at any time, anywhere and any number of times
- Providing a safe, attractive and exciting environment for learning without the danger of traditional laboratories
- Save time and effort to the teacher while explaining the practical lessons by conducting them in the platform
- Providing financial resources to purchase laboratory equipment and tools in schools
- Encouraging competition among students through improvisation

So we have achieved our goal in facing the many problems found in traditional laboratories in schools and universities such as lack of tools and chemicals and increase the number of students in the laboratory
vlaby platform link: www.vlaby.com

UNIQUE OUTCOMES AND IMPACT

Winning the Best Performance Award from the Cairo University Business Incubator,

The Vlaby platform also had a great impact on the students and the labs. Through the events and meetings we had with the students and teachers who use Vlaby, they showed their confidence and the great influence that Vlaby's use of understanding the equations and practical experiments

We have always sought to cover all the practical experiences of our students in the stages of learning before the university. We have achieved about 100 experiences to skip the Egyptian and Some Arab countries curriculum in the science of the preparatory stage in Arabic and English

REPLICATION AND SUSTAINABILITY

vlaby is the first Arab platform in Egypt and the Arab world offers virtual labs dedicated to our curriculum, and science is one of the most important subjects that must be addressed in all African countries, so we have a great opportunity to expand in many Arab and African countries because we cover laboratory experiments in science A state of Arab and African countries and according to the language they study,

So our plan is some of the completion of laboratory experiments in Egypt and some Arab countries will try to overcome many of the experiences in African countries and in English and French
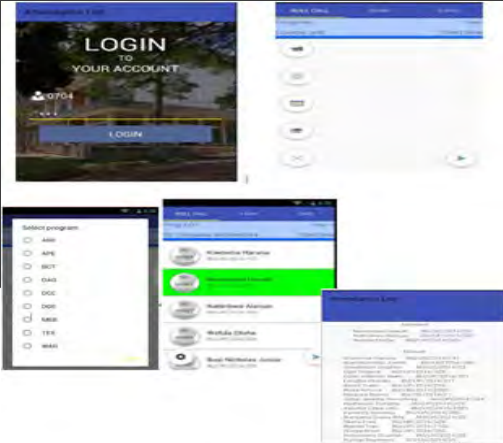
አሃዱ(AHADU)

PROBLEM BEING SOLVED

- Students reach their puberty stage or before that they may lose their focus on their education.

DESCRIPTION OF INNOVATION

- To make parents aware of the result of their children s in school participation
- To control the activity (attendance) of student
- To avoid existing problem

UNIQUE OUTCOMES AND IMPACT

- Parents will be able view daily status of student.
- Able to aware of the result of their children s in school participation.

REPLICATION AND SUSTAINABILITY

- by adding some features ,by using easy way on processing the system e.t.c

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CHADEDUCATIONPLUS

C H A D

peuvent désormais utiliser & partager les supports de cours numérisés, facilitant leur apprentissage & réussite scolaire. #PourChaqueEnfant, une éducation de qualité

Translate Tweet

PROBLEM BEING SOLVED

Chad is among the African countries with high number of pupils per textbook: in 2012, 5 pupils per reading book, 4 pupils per calculation book and 16 pupils per science book (Chad, Report on the Status of the National Educational System, 2016). At the primary level, only 4.4% of pupils have a reading manual and 3.6%, a mathematics text book (PIET - Chad's Interim Education Plan, 2018-2020). Nearly 80% of pupils do not have a book. At the secondary school level, the situation remains very alarming. The irregularity of the school calendar and the non-completion of the content due to strikes are recurrent.

DESCRIPTION OF INNOVATION

2. Following the finding of a major shortage of textbooks, a misallocation of existing ones to pupils and teachers and the lack of State resources to alleviate this problem, the digital, internet and mobile age offers an unprecedented opportunity to resolve the educational divide, as well as the disparities in content for public and private institutions endowed with greater resources as well as between rich and poor children. We have put in place the project CHADEDUCATIONPLUS with the aim to improve access to primary and secondary school materials through digital and mobile devices. We are collecting course materials from the best educational institutions and developing them into e-books (PDF) and stand-alone applications for free mobile and cost-free access telephone through the project platform (http://www. tchadeducationplus.org), and mini memory cards for telephone and despatch through Xender or Bluetooth. The project was actualized thanks to UNICEF financial support to the pilot phase for the ninth grade during the 2017-2018 academic year, and to the development phase for the entire secondary school level for the current year 2018 -2019. The project was also realized with the help and partnership of Saint François Xavier High School, the teachers of which provided course materials.

UNIQUE OUTCOMES AND IMPACT

3. Our ninth grade pilot project phase helped improve access to digital and mobile course materials for 1,000 students from two pilot CEG (General Studies Colleges) and the introduction of a library of 1,000 course material booklets for pupils who do not have telephones that support the digital media; and also access to over 30,000 downloads of course materials in the form of e-books and applications. The ongoing secondary level phase will help improve access to course materials through mobile and digital devices for over 8,000 pupils in two pilot high schools.

REPLICATION AND SUSTAINABILITY

4. Innovation can be zoomed, reproduced and supported everywhere. It requires a quality educational institution that can provide course materials to digitize and develop digital books and applications. All that is needed are programs or coders that can develop the course materials in applications and digital books; and a website developer to design the site to host course materials in applications and e-books. Financial support is needed for implementation of the project.

PROBLEM BEING SOLVED

In Africa, at the level of education-training, the over-crowded classes (80-100 pupils per class) make practical training difficult for teachers and learners alike; and this has the following consequences:

- difficulty in presenting documents or small objects to a class group
- demotivation of learners and teachers
- poor understanding of lessons by learners
- non- rationalization of learning time
- numerous photocopies (paper wastage)
- lack of interactivity in class.

DESCRIPTION OF INNOVATION

The solution is our device AES 1507; it is a teaching tool in the form of a desk lamp that films everything happening on the desktop, and retransmits the image in real time by projecting the same on a larger device. By so doing, all students are able to access the filmed content on the teacher's desk.

How does our solution work in concrete terms?

As a matter of fact, during practical training sessions, trainers use the 3D digital apparatus to project real objects (a technical object, a textbook, an insect, an experiment, a student's work or a group work) to a wide or on any appropriate device, to avoid pupils crowding around them. In addition, the camera affixed to a video recorder records the practical lesson session. The film of this practical course session is published online or on a local computer so that learners can revisit it as many times as they wish. This way, they are able to better understand what they have not captured in the classroom.

This solution revolutionizes education-training in that it makes the task easier for teachers and pupils alike, despite the over-crowded classes. Teachers easily present technical objects to the class; teachers and learners are motivated because time is saved for teachers and learners to have a better understanding of the courses. Besides, there is no need to make several photocopies for presentation of images, etc.

UNIQUE OUTCOMES AND IMPACT

We have about 15,000 pupils and students who benefit from our services in 04 institutions. The success rate in these institutions is on the rise.

Our project has a positive impact on education-training in the sense that it guarantees quality training for learners despite the overcrowded classes.

-The use of the device reduces the use of paper in schools by 40%, and so, we make an impact on the environment by reducing the misuse of paper in schools.

- Our solution and commercial strategy are suited and accessible to all learners, even those in the rural areas.

REPLICATION AND SUSTAINABILITY

Our medium-term goal is to have a larger manufacturing unit for the device in Côte d'Ivoire to serve all of Africa. To this end, we need 1 million euros. Note that the need to which we are responding exists in all African countries. The project can therefore be deployed across the continent.

RETICE-PWCS

T O G O

PROBLEM BEING SOLVED

RETICE-PWCS is an innovative solution aimed at creating growth and jobs while reducing the digital and energy divide in education and at the homes of pupils particularly in developing countries, including areas of insecurity and war zones. It thus contributes to improving the quality of training. RETICE-PWCS comprising renewable energy, local cloud, wireless network and digital terminals, is organized in three ready-to-use "All-In-One Kit", namely: "School Kit", "Inspection Kit" and "Home Kit".

DESCRIPTION OF INNOVATION

The RETICE-PWCS solution comprises: server + educational applications + platform for the production of local educational resources by teachers and pupils + secure wireless local network + textbooks + scientific calculator + video projector + visualizer + PC + individual tablet + various teaching software packages + autonomy without internet + openness to internet on controlled demand.

Today, investments in conventional materials (books, supplies, consumables, etc.) for education and vocational training for example, amount to several billions. But despite these billions, all African countries still have almost all of their students severely lacking in textbooks and school supplies. For the tiny proportion of those whose parents have the means, children crouch under the weight of their school bags with the books and notebooks still in paper. Besides, the transition of institutions to veritable digital "status" everywhere and for all is still a myth. Because the said billions are poorly invested without really taking advantage of the broad and real opportunities offered by the digital age, we invented RETICE-PWCS to provide solutions with multiple benefits.

Mediocrity has always been expensive, indeed very expensive most of the time!

The basic criterion at the technological level is to achieve solutions equitable and accessible to all; reason for which RETICE-PWCS is designed with a flexible and highly comprehensive technology objective, which takes into account the widest spectrum of needs, even the most demanding needs.

UNIQUE OUTCOMES AND IMPACT

The outcomes and impacts of the innovation are as follows:

- textbooks and school supplies available and accessible to all and everywhere, thanks to digital technology;
- improved conditions as well as quality education and teaching;
- cost of books and school supplies accessible to everyone;
- two(2) to three(3) enterprises with 2 to 3 partners per 1,000 students created for installation of the various technical equipment;
- unemployment and poverty reduced;
- equitable industrialization of the regions;
- truly inclusive growth projected.

REPLICATION AND SUSTAINABILITY

Innovation is organized in an "all-in-one" system. This allows for simplified industrial production and easy deployment. From this base, the whole establishment or enterprise goes digital towards "zero paper", and to avoid deforestation. Institutions and businesses can operate without internet and when they need the internet, the need can be reduced by 80% compared to situations without RETICE-PWCS.

With RETICE-PWCS, all schools in each African country can benefit from energy and digital base within a space of 5 years.

The savings RETICE-PWCS brings to parents and …

PROBLEM BEING SOLVED

Of all digital revolutions, that of e-education is undoubtedly the most strategic for Africa, because only a significant contribution of digital educational resources will help meet the education and training needs of hundreds of millions of young Africans. And yet this opportunity which finds its justification in the lack of schools and universities, seems completely ignored; reason for which ED4free committed to digital solutions, has designed the digital education box, of which the goal is to offer access to tens of thousands of educational content, accessible without internet.

DESCRIPTION OF INNOVATION

EDBox is a nano server that allows students, teachers and parents to access on WI-FI tens of thousands of educational content without access to the internet. Teachers can use these digital resources in class.

Accompanied by a mini projector, the EDBox can be used to simulate difficult concepts that need to be represented, and to show or demonstrate the operation of mathematical, biological, physical, chemical, etc. process. The box is also a library of downloadable resources that enable students to have documentary resources in all disciplines and in several formats from developed countries. This affords students equal opportunity in accessing knowledge.

The pedagogical uses of this device are numerous: (self) teacher training, course preparation, classes before pupils, provision of free educational content for download on Wi-Fi smartphones, for teachers, parents and students. They are also applicable to schools, adult training centers and universities.

Lastly, EDBox also integrates a Cloud which is an open access allowing for collection and distribution of educational resources that will be accessible online and via nano servers.

It is totally modular in that the content it hosts can be selected according to the type of education (primary, secondary, high school, higher education, adult education) and it is located depending on the country.

Technically, it is a Raspberry PI nano-computer, with Raspbian as the operating system.

UNIQUE OUTCOMES AND IMPACT

The impact of this technology is enormous from the stand-point of access to knowledge and quality education.

It enables learners to access content from all over and address topics more accurately with demonstrations, simulations and interactive activities; thus no doubt contributing to wider access to knowledge and enabling a student to have the same educational content as his fellow students at the other end of the world. The effect will be to enhance the quality of education and offer a new chance to access knowledge for those who have dropped out of school.

REPLICATION AND SUSTAINABILITY

Our technology has the advantage of being highly modular in terms of its design. The EDBox is already in use in several African countries and, for each country, the contents are contextualized and adapted to needs. The box is already showing its reproduction and adaptation capacity. It is adaptable to all contexts and works with simple batteries for areas without electricity. The two links below feature the EDBox in Côte d'Ivoire and Benin:

https://youtu.be/DIP2FKbDfs4
https://youtu.be/Jw99r-jhqwE

Website: http://ed4free.ovh/

ouobae@gmail.com | Emmanuel OUOBA

KEKELITHEQUE

T O G O

PROBLEM BEING SOLVED

KEKELI LAB is an association working for integration of information and communication technologies into education. The Togolese educational system is faced with enormous challenges, in particular: (1) non-availability of quality educational resources and infrastructure, (2) lack of internet connection in some schools especially in the rural areas, (3) lack of teacher training on ICT, (4) non-availability of appropriate technologies. To meet these challenges, we created KEKELITHEQUE, a virtual library that enables students and teachers to create, share and access educational resources.

DESCRIPTION OF INNOVATION

In the form of a compact chest, KEKELITHEQUE is a virtual library accessible via a web platform or a mobile application, without necessarily requiring an internet connection. A virtual library is a collection of digital documents (texts, images, sounds) - (that is, digitized or born digital) accessible remotely (especially via the Internet), offering different modalities of access to public information. The KEKELITHEQUE offers several advantages: (1) a very easy "offline" access to educational resources (without a need for Internet access), (2) easy installation of the KEKELITHEQUE chest, (3) a library suited to rural areas; (4) the effective preservation and classification of educational resources; and (5) a reduced budget for installation and maintenance of KEKELITHEQUE. The pilot phase of this project was set up at Folly-bébé High School located in the south-eastern suburbs of the Togolese capital: 20 students trained to take charge of a virtual library, 21 teachers trained in the use of ICTE (Information and Communications Technologies for Education) and the installed KEKELITHEQUE - these are the outcomes of this first experience in the field. A teacher was trained by KEKELI LAB to administer KEKELITHEQUE and to conduct training workshops for other teachers. Currently, at least 400 students use KEKELITHEQUE:

https://fr.africanews.com/2018/11/09/togo-des-smartphones-pour-faire-cours/;
http://www.africardv.com/africa/africatech/togolais-des-enseignants-outilles-pour-une-biblio-virtuelle/

UNIQUE OUTCOMES AND IMPACT

Thanks to KEKELITHEQUE, students have access to educational materials and annexes of past exams placed offline by their teachers. KEKELITHEQUE allows for a better classification of educational resources, by course and by class. The user has a personalized access to these resources via his personal account and he can comment on the resources to enhance the documentary base of the platform. Students can also add their authored resource documents tax-free. For example, for a science class, students can propose a document to the class.

REPLICATION AND SUSTAINABILITY

The KEKELITHEQUE has the advantage of being easily reproducible, inexpensive and very economical in terms of energy consumption (powered by a single rechargeable battery and/or with a solar panel). We plan to deploy it in 10 schools located in the 5 regions of Togo with training workshops organized for teachers and students. Our team comprises a variety of profiles: lawyers, education specialists, journalists, web and mobile applications developers.
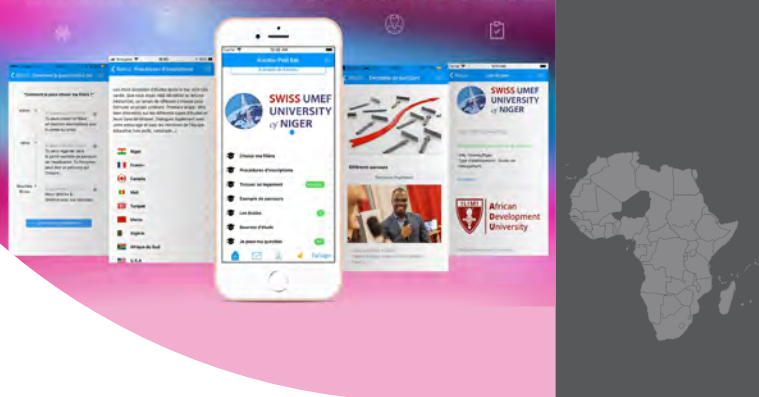
PROBLEM BEING SOLVED

In Africa in general and Niger in particular, thousands of young people fail on account of lack of knowledge of the sectors in which they were oriented by default. Some move from sector to sector before giving up. Karatou Post bac addresses the following issues:

• accessibility problem and lack of information on post baccalaureate possibilities,
• lack of success models in the close circle of some young people,
• choice of training inadequate for the job market,
• difficulties for baccalaureate holders outside the capital to register (decentralization),
• misunderstanding of the external realities.

DESCRIPTION OF INNOVATION

Enabling young Africans to take charge of their future - this is the mission of the mobile application Karatou Post bac. It can be downloaded from the Google Play Store and App Store. Once installed, pupils and students can enjoy the features hereunder:

• Choose my sector: Enables young people to acquire knowledge of the sectors and the opportunities on offer, and enlist the testimonies of young people who studied in the sector;
• Registration procedures: presents the educational system, the registration procedures, the cost of living in different countries;
• Examples of career paths to follow: inspire young people and enable them to project themselves and break down certain self-censorship barriers through examples of inspiring career paths;
• Interactive forum: place of interaction where young people ask questions, inform themselves about studies and housing;
• Registration in the institutions (in Niger, Morocco, Tunisia, France ...) directly from the application. Our ambition is to provide:
• Help in finding accommodation,
• Installation service for new comers from different countries,
• Personalized guidance coaching by profile (future functionality),
• Scholarship offers;
• We organize orientation workshops in high schools and introduce the application as a complementary tool

Soon Karatou Post Bac will offer:

• Resumes of final year courses and revision quizzes
• Tips for treating the exercises
• Interactive learning game on school guidance
• Online application for the BTS (*brevet de technicien supérieur exams - higher national diploma*) in Niger.

Our offer is unique in Niger and we continue to developing innovative services locally.

UNIQUE OUTCOMES AND IMPACT

The Karatou Post Bac application is used by over 3,800 high school students and students in Africa. More than 86% of users are located in Niger. In 2018, we accompanied over 1,500 young baccalaureate holders in their post-bac orientation; 17 students benefited from our help in finding housing in France, Morocco and Senegal. Today, the daily lives of Nigeriens are changing in terms of their post-bac approach. As a matter of fact, in the more than 200 opinions we received, our users (students and teachers) testify that Karartou Post bac enabled them to focus on their studies; they were inspired by the career path examples.

REPLICATION AND SUSTAINABILITY

Education is indispensable in all societies. Every year, millions of young people face difficulties to which Karatou Post Bac offers solutions. It is available for download in all countries around the world. Today, it is made out in French language. It could be translated for scaling up in English-speaking countries; and we need resources for that. In addition, we need support to fund communication campaigns in different countries and enable young people from other countries to benefit from our application.

COMPUTER FOR THE DEAF

DEMOCRATIC REPUBLIC OF THE CONGO

PROBLEM BEING SOLVED

In the Democratic Republic of Congo, the deaf are the object of marginalization, contempt, disrepute, no quality education ... that would have enabled them to develop their multiple skills; in short, the object of all sorts of underestimation.

These people have no easy access to requisite education even for integration into the vocational world, save where they possess extraordinary skills that can contribute to the development of our community (country).

DESCRIPTION OF INNOVATION

In view of this reality of which these people are victim, in March 2015 LE GESTE ONG made an innovation in setting up the first vocational computer training program for the deaf in the DRC called COMPUTER FOR DEAVES.

In the DRC, the use of a computer, a tablet computer or any other gadget by a deaf person is a miracle. This is because most Congolese make fun of them saying: "Baba asombi appareils, akobenga nani? Nani akopesa ye numéro" which means: "if a deaf person buys a mobile phone, whom is he going to call, and who will give him his number?"

And the program COMPUTER FOR DEAVES is not only a way for the deaf to be able to express their potentials and their talents; it is also a remedy that palliates their handicap.

Besides, it targets their education on NICTs (the New Information and Communications Technologies), their integration into vocational circles and the opportunities offered by the NICTs in this 21st century. The content of the computer training program consists of initiation to Microsoft Office packages (Word, Excel, Power Point, Publisher) and the internet.

This training is mobile, meaning that I as a trainer move with my equipment; I install the training center in the area of the city where we find a large population of deaf people; and at the end of the training, the deaf are able to work as encoder, data entry operator and secretary in vocational circles.

UNIQUE OUTCOMES AND IMPACT

In Kinshasa from March 2015 to the present day, we already trained 450 deaf people in computer science, 150 of whom are working in both private and public sectors.

Currently, we have two deaf people who wanted to deepen their knowledge of computer science in a university institution in order to officially acquire the capacity of engineer, and this, at ESFROCA within the INPP. They are presently in Year 3 of the graduate elective discipline: Computer Management and Maintenance.

REPLICATION AND SUSTAINABILITY

There are countries in Africa that still underestimate this category of people, and as such to replicate this idea in Africa, it will be needful to:

1. begin by identifying the countries concerned,
2. launch a study on the different problems facing education in the countries,
3. adapt Computer for Deaves programs to the needs of the country,
4. provide a budget or request funding to start the program.
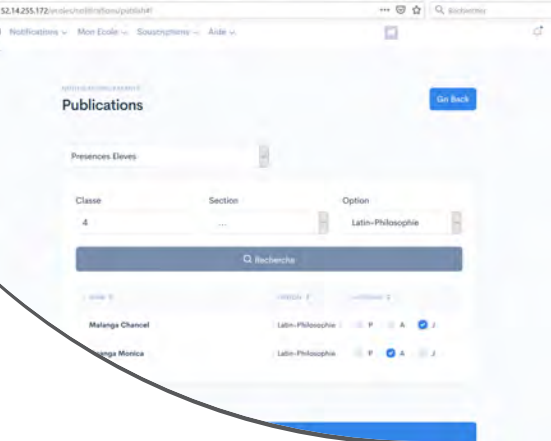
PROBLEM BEING SOLVED

We observed communication inefficiency among the players in the area of child education. This situation negatively impacts on the child's performance at school, because the tutor has almost no physical time to devote to this monitoring action.

DESCRIPTION OF INNOVATION

KELASI consists in setting up a web portal enabling schools to publish pupils' school activities as well as important announcements for the attention of the tutors. Once this information is available on the platform, the tutors will receive it immediately via an SMS notification or a mobile application.

The KELASI platform comprises a web portal providing access to a database containing all the student's school related information, and allowing such information to be transmitted to the tutor.

To use the application online, schools must have an Internet connection and a web browser such as Microsoft Internet Explorer. For their part, parents must provide themselves with a simple mobile phone to receive SMS notifications and re-subscribe via the USSD menu using e-money.

The information transmitted to the tutor includes school academic assessment, absences from and lateness to classes, breaches of discipline, child health reports and key school activities.

In our educational system, this platform falls within the ambit of innovations; and there are no competitors offering exactly the same services as ours.

UNIQUE OUTCOMES AND IMPACT

The KELASI platform actively contributes to job creation in partner schools and EAGLE SIGHT. It also enables educational establishments to generate additional income.

KELASI also helps enhance the efficiency of Congo's educational system by facilitating access to the information concerning child monitoring in his educational environment to promote real communication between the players contributing to his education for better mentoring.

Its beneficiaries do not need to have proven computer skills to take advantage of the KELASI service.

REPLICATION AND SUSTAINABILITY

We hope to extend this service to a number of African countries with a view to improving youth education in the continent.

The platform is designed to be easily replicated or extended to other countries.

The only action to be undertaken is to configure the telecommunication companies in the platform because the core of the platform is hosted in the cloud.

PROBLEM BEING SOLVED

The effectiveness of the Chadian educational system is at an appreciable level. Indeed, the school completion rate stands at around 45%. However, this rate must be maintained or even improved. The major problem that could cause the completion rate to drop or not increase would be related to the orientation and monitoring of students throughout their course. A misguided student may find it difficult to fit into the university space and thus become a failure; hence the need to put in place a guidance tool using the new information and communication technologies.

DESCRIPTION OF INNOVATION

The current changes in the economic and social landscape and the advent of the Information and Communication Technologies have confronted the current system of orientation with new demands. To adapt to this new context, more emphasis must be placed on the preparation of pupils and students, to lead them to better education of choice.

Having the right information is the best way to make a wise choice, which takes into account not only all aspects of the pupil's or student's personality but also the realities of the environment. Today more than ever, educational and vocational guidance plays a key role not only in the fight against failure, school dropout and maladjustments; but also in the accompaniment of pupils and students in their personal and vocational projects.

On this point, the technology we provide to guidance counselors is an offline application that can help students and pupils make sound and meaningful educational and vocational choices based on their abilities, areas of interest, their attitudes and the realities of the world of work. Composed of 5 modules, the application offers guidance in 4 stages:

- aptitude test battery for the 9th grade and graduating class to ascertain the psychological profile of pupils and students;
- identifying the interests of pupils and students;
- identifying the strengths and weaknesses of pupils and students;
- defining the sectors and occupations available to them.

UNIQUE OUTCOMES AND IMPACT

Implementation of this application will significantly reduce the failure rate, dropouts and school maladjustments for a good academic success story, and also to guidance without gender distinction and in total impartially based on the gender of the person oriented, so that girls and boys would have access to the same knowledge and vocational opportunities.

REPLICATION AND SUSTAINABILITY
Given its trilingual nature (French, Arabic, English), the application will be on offer internationally while improvements are made thereon, and it is adapted to the socio-economic context and realities of the target countries.

PROBLEM BEING SOLVED

In Benin, school guidance is reduced to general regular training. The lack of guidance device, the unavailability and/ or lack of access to information on technical and vocational training offers, oblige some learners desirous of taking vocational courses to move towards the general regular series, and others to drop out of school; this, in spite of Section 55 of the Law No. 2003-17 of 11 November 2003 on national educational guidance in Benin which says: the right to guidance counselling and to information on the courses and the vocations form an integral element…

DESCRIPTION OF INNOVATION

We have set up a communication, attractiveness and an awareness-building system on EFTP in order to change the mindset of parents, teachers and learners about the image of the EFTP (CONTINENTAL STRATEGY EFTP, African Union) in Benin; in other words, a paradigm shift at the level of the players concerned. It contains the following tools: the ETFP GUIDE and the Documentary Film - the Choice of the Future. The ETFP guide is a repertoire of schools as well as technical and vocational training centers accredited in Benin with their training offers that cover detailed modules, access conditions, practical counselling and opportunities. It enables the learner to acquire advance knowledge as to what to expect after training in the like of income generating activity, a guarantee of full empowerment. It thus enables each learner to make a succinct and profitable choice capable of providing him with self-employment immediately after his training. Innovation is the virtual version with the mobile application that accompanies the paper version. Aware of the challenge and the influence of ICT, our organization has made available to the educational system and the Benin population a mobile application compatible with smartphones and Android to further facilitate access to the ETFP Guide. This app is available on Play Store. All that is to be done is to go to the Google Play Store and type Guide ETFP, download the application and install it on your telephone. It is in line with the Government's Program of Action.

UNIQUE OUTCOMES AND IMPACT

The various tools designed have enabled us to impact more than 8,500 learners in school and out of school, suited to and capable of following technical or vocational training, 3,500 parents and 1,000 college teachers in Benin. We also have the agreement of our country's Ministry of Secondary, Technical and Vocational Education for popularization of the tools throughout the national territory. The Ministry's DEFI Pro project aims to achieve the same goals as we have, as well as create a partnership to meet the challenges of college-based guidance.

REPLICATION AND SUSTAINABILITY

Considering these different elements, it will be crucial for each country to have a guide to technical and vocational education in mobile application for a paradigm shift in parents, learners and teachers and also to acquire knowledge of the opportunities offered by ETFP (entrepreneurship, practical skills for exercising a trade). To replicate this innovation in every African country, it takes political will and funding for implementation of this innovative device.

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