



We empower young talents in school for the Digital Africa of Tomorrow.

# PROJECT "IT LAB Ghana"



Grow Ghana | SUSTAINABLE DEVELOPMENT GOALS | 4 QUALITY EDUCATION

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# 1 The Urgency for Digital Transformation in Education

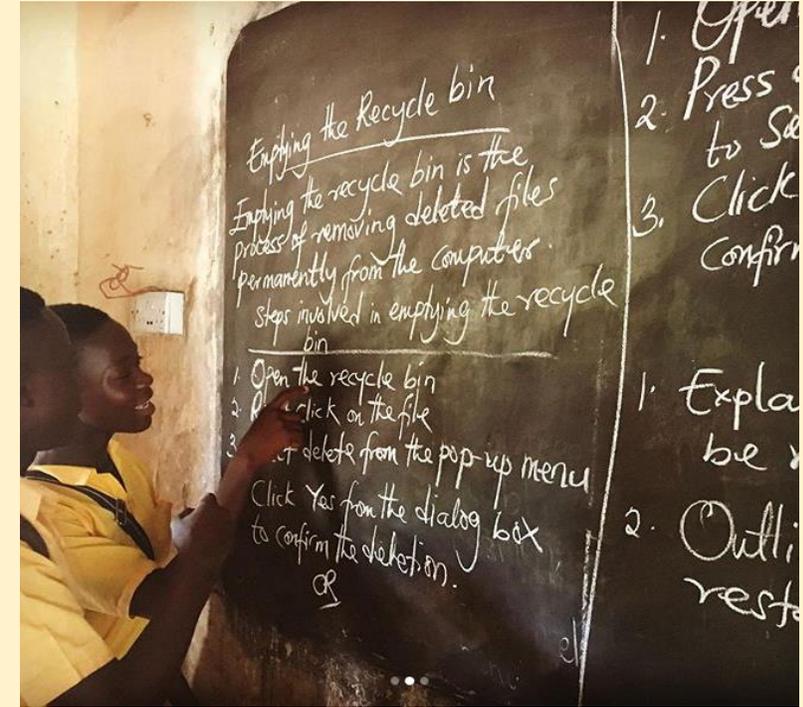
The start of Grow Ghana was mainly inspired by the experiences of our Co-Founder Gifty in her young age of education. As the story unfolds, one thing you may realize is that you are indeed transforming lives with your support – maybe even more than you may imagine.

**Gifty:** *"I always loved to go to school. When I was in school, it made me simply happy and was very exciting for me. I loved to learn new things and never wanted to go back home. At school I liked to write a lot and I still do. In my days in school we had morning and afternoon shift. Believe it or not, anytime you are going to school you have to carry your own table and chair. And then carry it back home. This was 15 years ago, but is still happening in some part of Ghana and Africa.*

*We never had a computer lab but we study ICT – in notebooks from the chalkboard. I completed school and still haven't touch a computer or a laptop before. Never!*

*One day I went to visit a friend who worked at the university in the internet café and he offered me a free access to a desktop computer. He said "you can browse or go to Facebook and I'll be with you soon". For about 30-45 minutes I was just staring at the computer. Finally he came back to me and said hey, "you're not using the machine, is everything alright?!" and I nodded, yes, "I'm ok" – meanwhile I am just scared and very nervous to use the computer because I have no idea how to start and I didn't want to ask. This experience never faded away and I do not wish these young ones to go through this experience, oh mine it was so embarrassing."*

**The digitalization is everywhere and a great chance for Africa. Old structures get disrupted and Africa can benefit tremendously. For this, young talents must be exposed to technology and critical thinking to master our rapidly changing digital world. Grow Ghana is aiming to create impact to support a new digital generation in Africa.**



**ICT training on the chalkboard – missing the practical aspect. Students do not get prepared for the digital demands of future jobs. A missed chance for Africa.**

## 2 Field Report: IT & Coding @ School



### How the Raspberry Pi opens the digital gate for Ghana

“My hands were shaking – I was so excited!” – one feedback from a young student after her first session with the Raspberry Pi computer. For some pupils, aged between 14 and 18, it was the first time to touch a computer! But digital education is key for Africa’s future. Moreover, it can also serve as a bridge to develop soft skills like critical thinking and teamwork in a practical setup.

Still, IT classes in rural schools in Ghana are done with chalkboards and without practical experience. The picture of a dedicated teacher, who **Painted a fully detailed Microsoft Office interface on the chalkboard** went viral via media like CNN. It became a symbol for the lack of equipment and resources of public schools in Africa. Most schools and families are not even equipped with a single computer. A sharp contrast to the requirements of the modern job market and a missed chance for talents.

With the support of the **Codingschule Düsseldorf**, an impressive initiative to train the youth in Germany how to code, we started a field test on 2 local schools in Kokrobite. Our Senior Volunteer from Germany, Heiko, dedicated 6 weeks of his time to run the training together with the local team. He brought not only 20 years of IT experience from HP, but also a set of **Raspberry Pi computers** including advanced equipment like breadboards and power banks. The equipment turned out to be ideally suited to the challenging conditions on Ghanaian schools with its heat, dust and power cuts.

Check out our **CLASSROOM VIDEO** how our first mini-IT-lab looked like in reality!



*The team followed the curriculum of the Raspberry Pi Foundation and some great open source communities like **CODE IT**.*



The training was challenging for the pupils and demonstrated the need for an extensive follow-up training in small groups. With 8 pupils in one group and 2-3 instructors, the level of explanation and interaction was intense and effective. This ratio was necessary to build up quickly skills like critical thinking and logical reasoning which are key to master the curriculum. The tangible progress of the pupils

proves the need and effectiveness of the training and encouraged us to proceed. The students join the program even on weekends or during vacation – and the demand is growing.

On the other hand, it was challenging to integrate the sessions in the regular classes and get suitable rooms to do them. To establish the training on a long-run at the school and reach more students, a proper infrastructure (IT lab) is needed. This enables an effective delivery of the training, equips each student with his/her own device and does not conflict with the regular class sessions at the school.

#### Quick Facts



- Successful test of Raspberry Pi computers on 2 basic schools with >30 pupils (14-18 years)
- Training included basic computer literacy, internet usage, basic coding (SCRATCH) and breadboarding
- The very structured and challenging curriculum of the Raspberry Pi foundation is open source and a great starting point for this age group – it also empowers instructors without coding knowledge to quickly pick up
- The equipment is robust enough for Africa and suitable for the youth
- For an effective training, the usual classroom setting is not ideal (tables, chairs, wires, ventilation). A small, basic IT lab building is recommended to deliver the trainings effectively and avoid distraction and interruptions.

# 3 Impact + Budget IT Lab

## Practical & tangible impact for our students from the trainings based on our test setup

The students are trained in logical thinking and critical reasoning



They are able to do basic & advanced coding projects (SCRATCH) on their own



They are familiar using computer programs and perform advanced internet research



They are able to speak in public by presenting their project



They are trained to work effectively in a team



They are empowered to discuss openly without fear or doubt of their opinions



## Need & benefit of the planned IT lab

*Place: Gomoa Dampase Basic School, Kokrobite, Greater Accra*

### Infrastructure

- Secured IT working space for 15 students
- Workspaces w/ Raspberry Pi computers (3B+)
- Integration of breadboards & experimental equipment

### Integrated Training

- Curriculum by Raspberry Pi Foundation
- 2-3 qualified instructors per session
- 2x training per week per group

### Benefit

- Constant, regular delivery of training ensured (no conflict with regular classes)
- Efficient training through suitable equipment and avoided interruptions

## Budget 2020 for IT lab incl. training for 100 students

Position	USD
Completion of Building	2,225
Computer equipment (Raspberry Pi)	1,500
Classroom equipment (chairs, table, projector)	1,115
Electricity connection and 1 year charges	660
Training delivery (2x trainer compensation full time) <i>enabling bi-weekly training for 100 students for 1 year</i>	9,500
<b>Total</b>	<b>15,000</b>

# 4 Our Training Philosophies

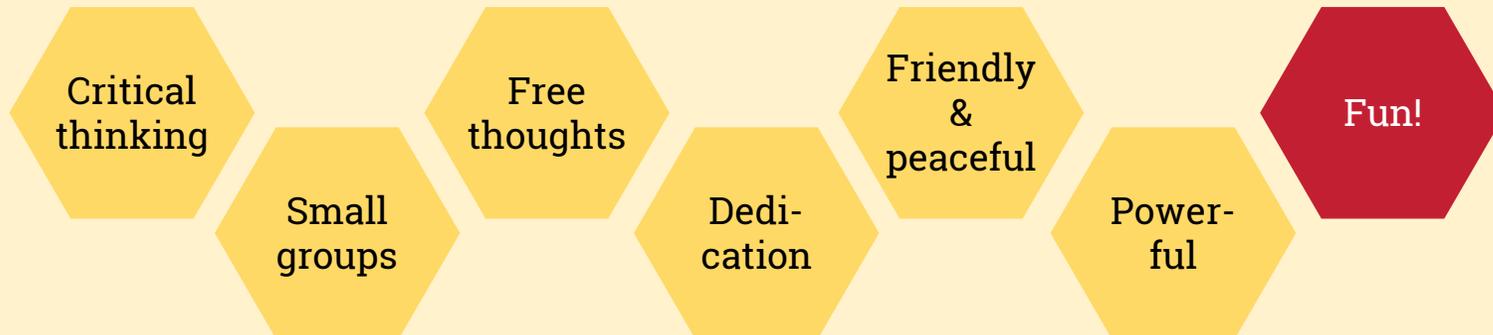
Grow Ghana’s philosophy in our trainings is to challenge the conventional way of teaching. We are inspired by sources like TED and Liberating Structures. We spend a lot of time in research for good tools & methods to improve our quality of training constantly.

We want our students to explore details and alternative options for answers. With our philosophy we encourage, we discover and nature the hidden talent of our students, we empower our student to be confident of themselves to go beyond **“What?, How?”**, and ask the question **“Why?”**. We create an interactive room for critical thinking and a logical way of open discussion among students – in small groups and implant teamwork. E.g., doing a presentation on their project in front of their peers is for most of our students a completely new experience!

We also focus on ensuring a friendly and peaceful teaching environment and give all students equal attention. Our students our priority, our care and Grow Ghana cares for all. Nevertheless, we also foster discipline and hard work, to ensure an efficient training.



**Small groups, a good trainer-student ratio and mixed, diverse teams are key. We focus on quality instead of quantity.**



# 5 The Team of Grow Ghana



**Gifty Nana Yaa Yeboah**

Co-Founder, Lead Trainer



**Wendel Laryea**

Co-Founder, IT Lead



**Bismark Osiakwa**

Senior Trainer



**John Anyan**

Content Expert



**Board & Management**



**LOCAL TRAINER POOL**



**GLOBAL VOLUNTEERS**



**Ulrich Busch**

Co-Founder, IT Expert



**Benjamin Schunke**

Co-Founder, NGO Expert

**Content Support & Experience Sharing**



## More about us!



Interview with our Co-Founder Benjamin in a **German newspaper** on Africa & Grow Ghana

[LINK](#)



Grow Ghana was featured with an interview in the well-known **Sabbatical Guide**

[LINK](#)



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