

# Learning Digital Skills in community settings:

*Experience, empowerment, passion*

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## Introduction

Prior to Lock down measures in COVID-19, Dr. David Monk from the Faculty of Education and Humanities in partnership with Ms. Jenny Anena (a local teacher) and Mr. Maxwell Openjuru (Technical specialist in Digital Technology) partnered with Dr. Kathy Sanford and Dr. Fu Hong at the university of Victoria in Canada, to carry out Action Research on the use of teaching primary school children using Digital Portfolios. The research was funded by the Canadian Social Science Humanites Research Council. The research was focused on digital skills, transdisciplinary learning, and formative assessment. Early on into the research process, COVID 19 and the ensuing lock down interrupted the research. After COVID-19 restrictions were lifted slightly we decided to try out the research in a community close to the school community. After seeking permission from the COVID-19 Task force, and following strict protocols, we worked together with local community leaders and parents to set up learning sessions in the community.

### The classes

The Classes were held bi-weekly, in small groups in the open air in the community, with a small group of students. The platform that we used is called FolioZ, an open source platform for developing digital portfolios. Most of the students had never had access to a computer and the majority probably will not be in school even if school starts because their parents cannot afford to pay their school fees. In the beginning, we had a sort of lesson plan but later, the children chose what they wanted to learn. It felt important that they **discovered the world** according to their view so our lesson mainly focused on agriculture because that's what many were exposed to and that's what most knew how to do. It felt natural to them and through these means, we tried to integrate things like mathematics and science. In mathematics, we counted, multiplied and divided the simplest and most basic of ways in ways where they used seeds to do all their math work without necessarily having to write down anything. It was amazing what some of these children could do. We added activities like fine Art where we asked the children to do drawings and moulding according to their interests to see their creativity and we were amazed by the creativity they exhibited.

### Digital Skills

The lesson begins with an introduction to a computer that most of the children were familiar with but had never used. The lesson of the day was to identify what a computer is and the different types that are there and we used the example of two laptops and 2 phones (android, windows and chrome os)

The first thing was to teach each of them what a computer was, what it does and how to turn it

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on. Despite being familiar with it, many feared to touch it or use it because “dad says it's not a play toy” as one of them put it. What ensued was a brief history of the on and off button then challenging them to show us where it's located on a computer and everyone who got it correct was required to press it to see what happens. And with excitement, they all got it right.

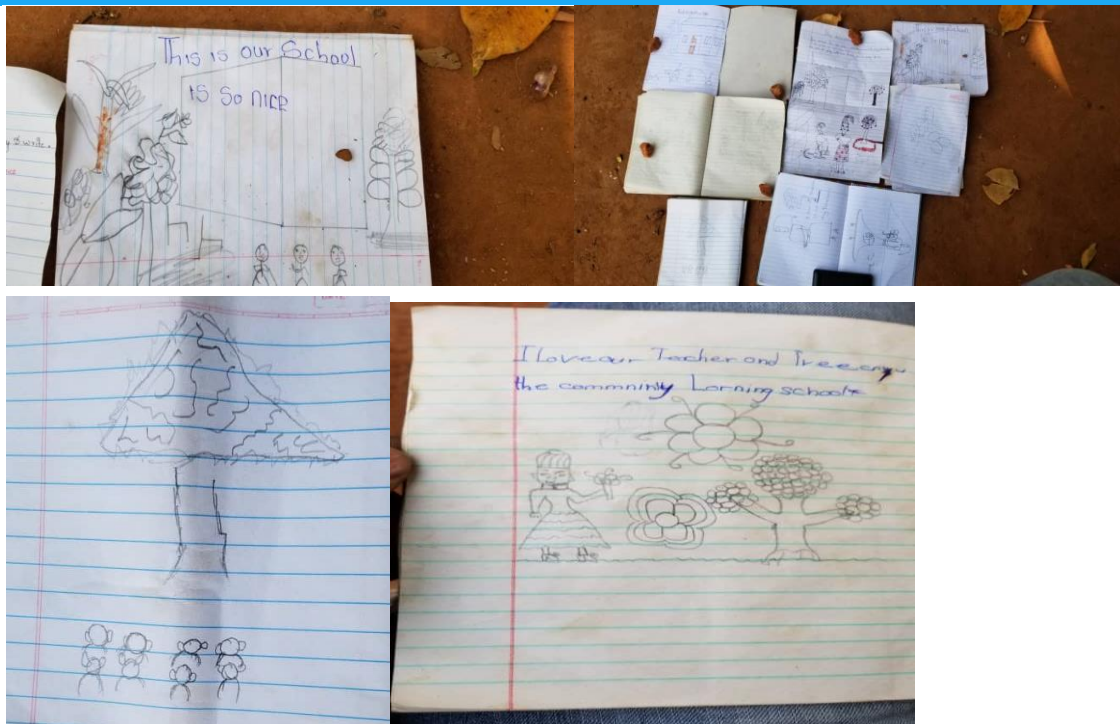
The next lesson was to teach what an icon is and what it represents when using a computer. This also was easy for them but it was difficult to relate the web browser icon to something they use in real life. So, to drive the point home we used familiar icons on the computer like the home button on an android phone which means the home screen, the calculator on the computer which would represent the calculating app and the like.

### **Transdisciplinary using agriculture and local context**

As the lessons progressed we decided to take the agricultural approach of learning since it was something they were familiar with and something they can do at home. In the process, the pupils were getting more confident and surer of the English language which happens to be one of the subjects that are taught in the schools. Furthermore, the pupils got a chance to try their typing skills in both folios and google docs. They used the local language in google docs while they used English in folios.

Using the agricultural approach in both Luo and English, the students learnt how to plant different crops indigenous to the area and also the use and the reason why different things are done and why they are done the way they are done. For instance, the use of water when planting, the reason why clearing land is important. and usage of worms in the ground which is taught in their schools as basic science.

We asked students to **Envision** what their gardens would look like, **Predict** how much it would produce, and **Plan** what they would plant, and **Calculate** what they need to be successful. This was done designing pictures in notebooks, taking photos of them and uploading them in their portfolios. This required them to develop Math skills, and basic business skills, in addition to the language and science skills. Additionally, they learned soft skills of collaboration and critical thinking skills.



## Learning is fun

We often met twice a week in the afternoon like from around 2 pm and we would stay with the children till late almost cause the enthusiasm was high and enjoyed our company and would request us to stay longer. It wasn't a usual class to them but a different kind of school where the learning is hands-on, and the learners direct the learning process- with the teachers just facilitating what the learners want to know.

## Local Language

Both English and Luo were used as the language of instruction it was important to let the children know that their inability to speak English didn't equate to being dumb or stupid for that sense and this showed more confidence to those that had trouble with their English and would remain silent when they knew how to do something more so on the computer. Most mastered how to use icons without necessarily having to read what they were doing. While using folioz it was more important to know what the icons meant than what they read on during the use of the app. One student amused me by asking why most computers are written in English and when we showed him **google in Luo** he was amazed and excited

## Reflection as Empowerment

We found that after students had gone through the activities of planting their gardens and uploading their pictures of their designs, they still were not aware of the learning that had occurred. When we asked them about their math skills for example, they

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claimed not to know math, despite clearly exhibiting mathematical skills such as multiplication and area calculation when planting. They were somehow still convinced that this is only possible if you can write it out on an exam paper- which they felt that they could not do. So we took them back to their portfolios, and had them **reflect** on their learning, and explain to us what they knew. It was in the reflective process that we facilitated a **deeply empowering enlightenment**: They were smart, they knew math, they can do these things. It was an “**aha!**” moment that happened at a different pace for different students, but when it happened we saw lights go on in their eyes and a different kind of self **confidence**- and **curiosity** for learning emerged. This is fundamentally important, because there are very many young people who give up on learning because schools tell them that they can’t learn and that they don’t know. And yet they are **constantly learning**, and they have a rich set of **experiences** and passions that can be very easily drawn on to encourage them. Until they **dare to learn**, most will not even try. So the question is, How can formal schools integrate this passion for learning through reflection and empowerment? It is very possible, but it requires a different approach to assessment and teaching- as the new curriculum in Uganda has proposed. The community is vibrant space of learning that can be documented and learned from, but the students have to be empowered and encouraged to go out and use it- much in the way education systems were formulated prior to British colonialism- students learned through practice in daily life, and reflection in the evenings around the Wang Oo.

### **Next steps**

In the latest round of school closures, we have presented our methods to the Gulu Education working group, and proposed to expand it to include helping students learn how to teach online. The Gulu Education working group has taken up some of the ideas, and the members- each in their own sphere- has embraced the approach of experiential and contextually relevant learning for students. We hope that as schools reopen, we will be able to integrate some of this model in formal education processes.