KPLAY Learning Brief

Learning from integrating technology and Special Needs adaptations.

August 2023

Introduction

The Kenya Play Project is well established and into its third year of implementation. In the past three years the project has successfully worked with 211 schools in Kwale and Kilifi Counties of Coastal Kenya and at least 1400 teachers. The project model has continued to be adapted to changing contexts including in a post-covid recovery period. Among the areas that have provided opportunities for learning and reflection has been the use of technology in the classroom and in the integration of LTPT in Special Needs Education institutions participating in the project.

The project design has evolved to address basic digital skills for teachers while also introducing creative coding using Scratch as explained in the next section. The project has provided schools with additional support in terms of one laptop and Mifi to complement existing devices provided by the Government. Digital Literacy is among the competencies that the Competency Based Curriculum (CBC) is promoting for learners and consequently the need for investments in terms of devices and training of teachers. However, since the inception of the technology aspects of the program, the project has learned that a majority of teachers have low tech skills and are largely technophobic. To curb this, we have introduced digital skills at every training and coding as part of the training academy three. This has led to an increase in numbers of teachers using technology in the classroom. This learning memo dives deeper into the current state of teachers' skills, access and use of devices in the target schools and what can be done to improve the same.

KPLAY also remains committed to ensuring inclusivity in the project. This has been the motivation of continuously working with schools for special needs learners. The project is making deliberate efforts to ensure that the support for special needs educators is ensured in the training process including the training manual as well as in in-schools support. As a result, the project has been working to adapt the manual initially for teachers working with Hearing Impaired learners and eventually all the other forms of disability. The initial focus on Hearing Impaired learners was because we have more schools for the deaf participating in the project. We invited experts in this field and worked with one school for the deaf to ensure the adaptation works for the implementers. In this learning memo, KPLAY shares the learning and process followed in these adaptations and expected outcomes in the long run.

Technology

Integration of technology and building learners' digital skills is a critical component of Kenya's Competency Based Curriculum (CBC). The Government of Kenya has made various efforts to ensure schools are equipped for this, hence the Digital Literacy Programme (DLP) in 2016 that saw a large investment in schools in-terms of laptops, projectors, learners' tablets and internet routers. Therefore, to support and supplement the government initiative, this project has undertaken training of teachers on the use of technology. Further, in 2022 the Kenya Government introduced a National Coding Curriculum developed by Kodris Africa for use in Primary and Secondary schools and approved by the Kenya Institute of Curriculum Development (KICD)[1]. KPLAY has in the past three years been working with teachers to use technology in the classroom. The project has been working to build basic digital skills as well as creative coding using Scratch. These include skills such as Word, Internet searching, basic skills for navigating the laptop providing and connecting to the Wifi created from the MiFi device. Teacher's confidence with technology is significantly low as experienced in the project over the past three years.
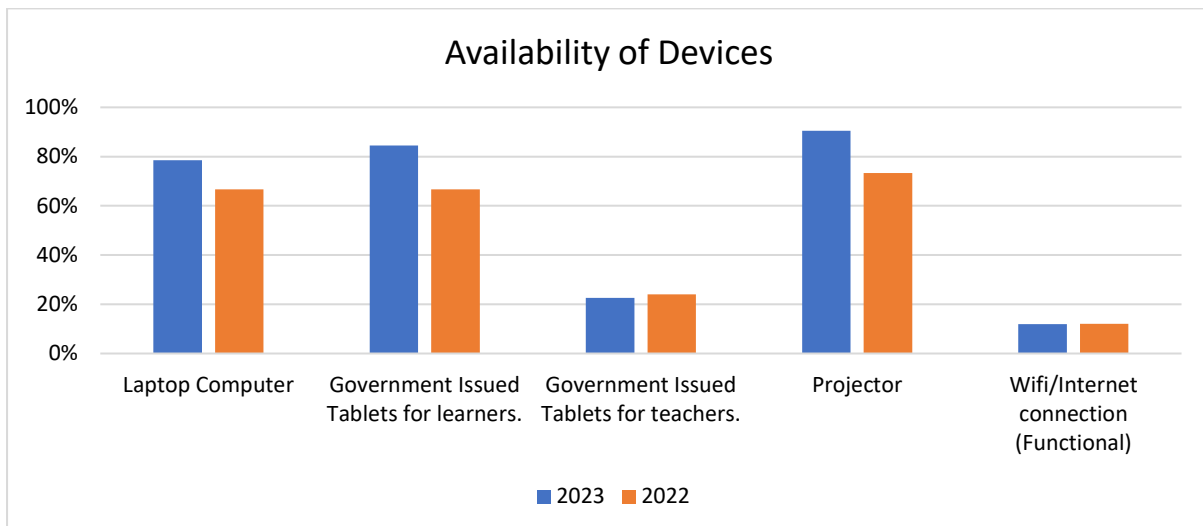

Figure 1: Graph showing distribution of devices in KPLAY Schools in 2022 and 2023.

The general access to devices is similar in the 2022 and 2023 cohort of schools supported by the project, as demonstrated by Figure 1 above. In 2023 schools registered using their devices both for administrative and ICT lessons. For administrative and data planning, schools must download assessments from the Kenya National Examination Council (KNEC) and upload assessment results. Further, the Teacher Service Commission (TSC) has an online system where teacher performance is recorded. This means that teachers need basic digital skills to be able to make entries into this system to ensure they adhere to the TSC's regulations.

In 2022, a KPLAY school leader survey at the start of activities with the first cohort of 100 schools showed that only 54% of the school leaders were confident in switching on a computer, creating a document and saving for later access. The graph of the level of confidence for various computer tasks is shared below.

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[1] [Kenya introduces first coding syllabus for kids (citizen.digital)](#)

School leaders (Headteachers and Play Ambassadors) rating computer knowledge and skills as Quite a bit and extremely

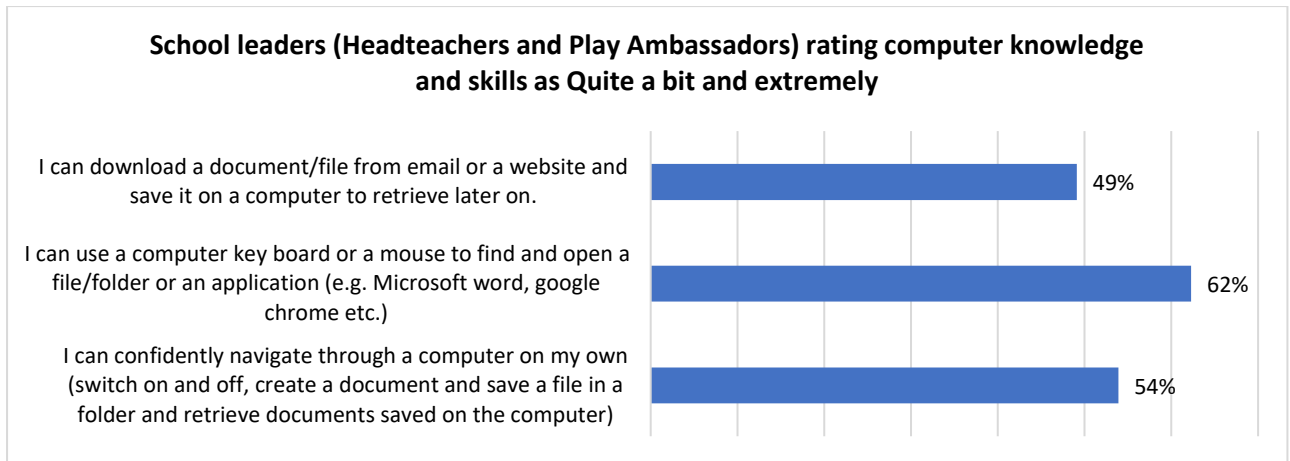|	
I can download a document/file from email or a website and save it on a computer to retrieve later on.	49%
I can use a computer key board or a mouse to find and open a file/folder or an application (e.g. Microsoft word, google chrome etc.)	62%
I can confidently navigate through a computer on my own (switch on and off, create a document and save a file in a folder and retrieve documents saved on the computer)	54%

Figure 2: Graph showing School leaders ICT knowledge and skills in 2022

While teachers do have access to Smart Phones, access to computers (laptops or desktops) that allows more in-depth use of technology, especially in the classroom, is limited. Also, although schools have access to gadgets provided by DLP, knowledge of how to use them is limited and they remain idle in the schools and safely stored.
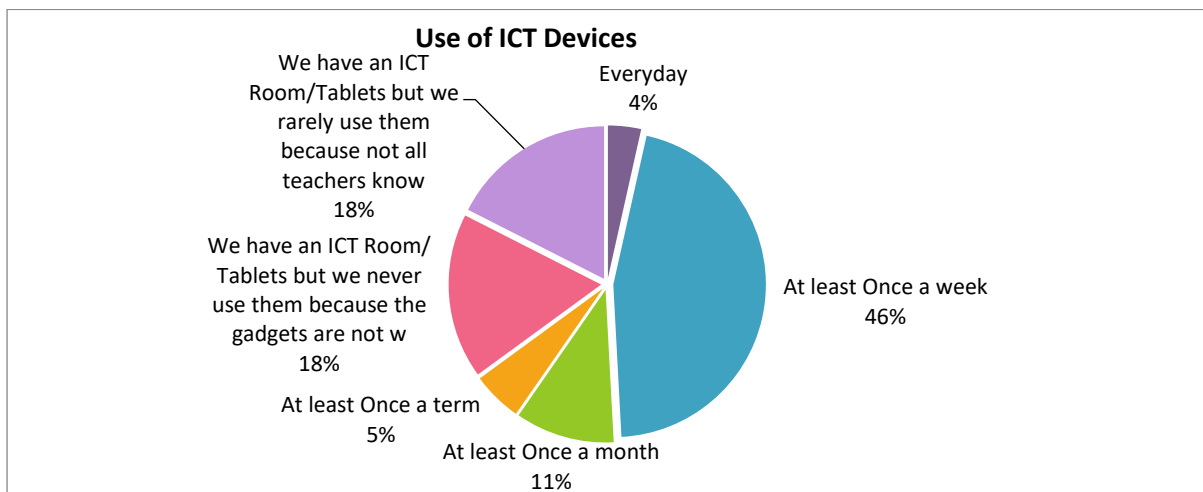
Use of ICT Devices

- We have an ICT Room/Tablets but we rarely use them because not all teachers know — 18%
- We have an ICT Room/Tablets but we never use them because the gadgets are not w — 18%
- At least Once a term — 5%
- At least Once a month — 11%
- At least Once a week — 46%
- Everyday — 4%

Figure 3: Graph showing extent of use of ICT devices in 2023 KPLAY schools.

As shown in Figure 3 above from a survey done of schools in the 2023cohort, 46% of the schools reported using gadgets available at least once a week and for both administrative and ICT training for learners. In the same schools, 18% reported rarely using tablets because teachers don't know how to use them and another 18% don't use the gadgets because they are not working. In the 2023 cohort of schools, of the 84 schools that submitted full data, only 55% of all the tablets recorded are functional. Internet connection remains mostly inaccessible at school level. All schools have not been able to independently secure and maintain internet access due to competing financial priorities. The schools that have internet access mostly receive the facility through a partnership with projects run by non-governmental organizations working in improving access to technology. However, at the individual level, teachers, based on their own motivations and initiative, purchase data bundles for their phones and personal devices for specific lessons. Schools' investment in internet infrastructure is challenging due to competing priorities including teaching materials, maintenance of infrastructure and feeding programs. Among the lessons learned when interacting with the schools is a realization that teachers and administrators were not informed on proper care of the devices, particularly in the

coastal region; it's hot and dump and this is part of the reason why they have fallen into disrepair. Furthermore, few teachers have information on where to report faulty devices, an indication that in the past, the roll out support structures were not properly established.

In addition, at the start of the project it was evident that Curriculum Support Officers (CSOs) also had weak digital skills and limited access to devices. Majority of the CSOs have no computers in their offices and therefore, are reliant on their own resources to acquire a device or secure computer services from Cyber Cafés. In 2021 and 2022, while conducting the teachers' workshops in their zones, CSO facilitators or hosting schools had to find additional ICT support from outside of the school to support connecting devices and running of slide shows or troubleshooting where necessary. This is slowly changing as during Training of Trainers workshops, the CSOs and Play Ambassadors have more interactions with devices, receive training on some basic computer navigation skills and are more confident to work with them. Further, KPLAY has provided CSO's in Kwale and Kilifi with tablets.

From classroom observations, we see that teachers are starting to use technology, but primarily to project short videos, music and PowerPoint slides. Teachers are however yet to fully utilize creative coding in the classroom. This is a relatively challenging area for teachers who are only just now being able to overcome technophobia. Through the KPLAY YouTube page, teachers can watch and try and replicate some of the activities there. This is in addition to the teaching resources accessible from the Scratch platform.

One lesson learnt from KPLAY's sister project, Girls Learning Through Technology Project (GLTT), is that teachers need additional and continuous support post training to make the use of creative coding in the classroom a reality. This is critical learning for National Level efforts to integrate coding in the CBC curriculum. Training must be followed by additional support to teachers, preferably in person but potentially online as well for teachers to practice and overcome techno phobia sufficiently to use it in the classroom. However, a bigger challenge looms in the schools which is access to devices.

Special Needs Education

KPLAY continues to be committed to ensuring that Learning through Play with Technology (LTPT) is inclusive for learners with special needs. KPLAY has worked with five schools that are exclusively for learners with special needs primarily working with learners with Hearing Impairment. However, in the 2023 cohort, 30% of the schools identified as Integrated Schools, had learners with special needs in class alongside learners without special needs. A further 6% of the schools also had Special Needs Units alongside their schools.

Year	School	Special Need
2021	Kinango School for the Deaf	Hearing Impaired
2022	Kwale School for the Deaf	Hearing Impaired
	Kidimu School for the Deaf	Hearing Impaired
2023	Makobe Special School	Physically Impaired and Mentally Impaired
	Kizurini Special School	Physically Impaired and Mentally Impaired

Table 1: KPLAY's reach of special needs institutions.

In a survey conducted with four of the above schools, two out of four of the schools felt that the use of LTPT is relevant for their learners and have used most of the activities including ICT. One each felt that the use of LTPT is extremely relevant and somewhat relevant. None of the schools selected the option of "not relevant at all". The schools report that the learning has been very enjoyable and

have encouraged learners' participation. Examples of where LTPT has been used are in English, Mathematics, Environmental and in Creative Arts include.

> "When teaching addition in mathematical activities, animals in environmental activities and English when teaching singular and plural" Kwale School for the Deaf

When asked what can be done to make the use of LTPT more relevant, teachers pointed to more digital devices and materials that can be used in the classroom. Teachers requested that learners be equipped with laptops so that they can interact with more visual activities and further have all classes equipped with play materials rather than the learners going to the PlayLab because some learners have mobility problems and some can be very hyperactive.

In 2022, the project embarked on a process of review of the TOT Manual to ensure it is aligned with the National Curriculum. A stakeholders validation meeting was held on 18th to 20th May 2022 in Nakuru bringing together among other stakeholders' representatives from the Ministry of Education and the Kenya Institute of Curriculum Development (KICD). Among the recommendations made as a result of this process was the adaptation of the manual for Special Needs Education. With a majority of the SNE Schools that the project was working with being for the Hearing Impaired, it was agreed that the first adaptation of the manual would be for this category.

KPLAY secured the support of two Special Needs Education (SNE) CSOs who reviewed the manual and made recommendations. Further the review process included a validation activity with teachers from Kinango School for the Deaf and Sahajanand Special School. Among the recommendations made were the use of finger spelling for learners to observe. Thus, any words where the teacher or learners are to 'SAY' or 'SPEAK' for instance, then the words 'SIGN or FINGERSPELL' should be inserted. Another recommendation was the inclusion of an assessment rubric and a template for an Individualized Education Plan (IEP). We are on a journey to ensure all the teachers we work with can access resource materials that can support different forms of disability.

Image 1:Special needs educators discuss adaptations to the KPLAY Capacity Building Manual

Summary and Conclusion

KPLAY's implementation continues with an intention to continue to improving teachers' skills for ICT use as well as supporting SNE teachers on how best to use creative learning approaches. Further KPLAY intends to:

1. Determine broad adaptations that can be made to cover as many Special Needs Categories as possible. This provides opportunities for engagement with the Directorate of Special

Needs Education at the Ministry of Education and a sample of teachers from the SNE schools that the project has worked with.

2. Continuing with teacher training on basic ICT skills will continue to build confidence in navigating laptop computer and how to identify learning resources from the internet. Sub-grantees Edutab will continue to provide direct support to teachers during school visits, modelling the learning gained from GLTT Project of continuous support to schools. The project intends to ensure that skills provided mirror the needs in the curriculum to make the training as relevant as possible.

3. KPLAY will also share with stakeholders at County and National level the learning from the status of technology in the schools. Schools require not only devices but also skilled human resources for support and maintenance of devices.