



# Zimbabwe Digital Schools

Phase 2 Final Report  
May 2020

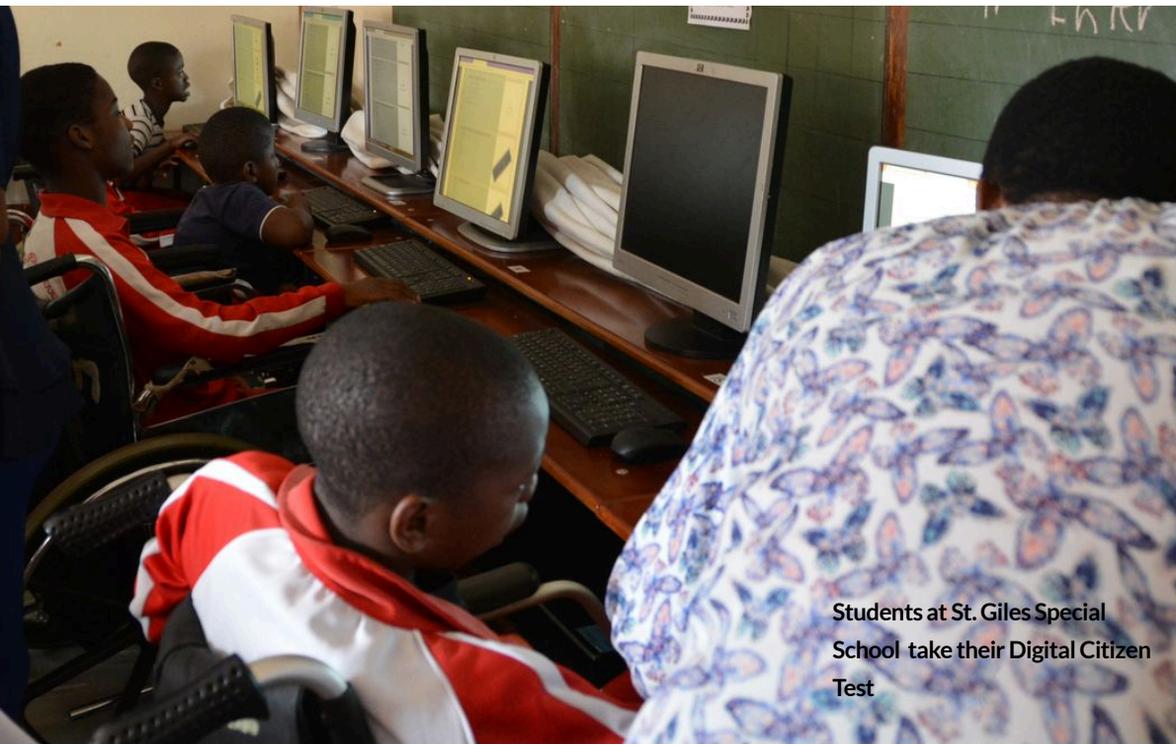


# Introduction

The Zimbabwe Digital Schools project has been working to strengthen educational outcomes in 10 schools across Harare, across two phases.

In Phase 1, Computer laboratories were setup at each school, providing 20 computers and assistive technology such as printers, teacher laptops, speakers, headsets and digital educational resources. Three teachers from each of the 10 schools were trained either in the ICDL Digital Citizen Plus module (Basic Group) or ICDL Base modules (Intermediate Group), depending on their ICT competence.

In Phase 2 the project has worked to strengthen educational outcomes from Phase 1. ICT infrastructure at schools has been extended by providing a further 3 laptops to each school to be used in other classrooms for teaching. Further teacher training has taken place to ensure that all teachers have completed at least the ICDL Base modules and are better placed to incorporate ICT into their teaching. In schools where previously trained teachers have left, new teachers have been trained. Finally, Grade 6 students from all schools who have been accessing the computers at their schools since Grade 3 have been assessed in the Digital Citizen ICT Basics module in order to demonstrate if the project has allowed these students to gain basic ICT skills.



Students at St. Giles Special School take their Digital Citizen Test

# Output Progression

November 2019 - May 2020

## Student Digital Citizen Testing

Student testing in the Digital Citizen ICT Basics module took place during Computer Aid's visit to Harare in November 2019. The aim was to test 1,000 students across all 11 schools (Mbizi included) in order to understand levels of student ICT skills across the schools. Students in Grade 6 were selected because they have been accessing the computer labs over both phases of the project. In total, 766 students across the schools were tested in the Digital Citizen module; issues with power at some schools meant that less than 100 students were tested per school. The remaining 233 students will be tested once schools reopen.

## Teacher ICDL Training

Teacher training resumed on Saturday 15th February 2020 after previous taking place between August and September 2019. Training took place on consecutive Saturdays and assessment was held over March 2020. The two groups of teachers (Basic group and Intermediate group) were exploring ICDL Base Modules and Intermediate modules respectively. The Basic group had 10 participants and the Intermediate group had 6 participants. As a result of the training in Phase 2, 87% of teachers have now passed at least 1 ICDL Base module, with each teacher passing 3 modules on average.

## Endline Monitoring

The endline monitoring was scheduled to take place in March and April 2020. Teacher monitoring began on 22nd March, with principals and students scheduled to take place the following week. Unfortunately, due to the global Coronavirus pandemic, the Zimbabwean government closed all schools abruptly on Tuesday 24th March. As a result, teacher endline data will be explored in this report with previous survey data and we hope to collect remaining data when schools reopen.

**Students at Kudzanayi Primary School take their Digital Citizen test**



# Timeline Adjustments

There have been a few changes to the original project timeline in this reporting period:

- ICDL teacher training continued into 2020, in order for further training, assessment and certification to occur. Due to some staff turnover at schools, this allowed new members of staff to receive ICDL training.
- Endline monitoring went ahead as planned in March 2020, but school closures due to Coronavirus meant that this output was not completed. Scheduled to be completed when schools reopen.

The project timeline is shown below; only months in this reporting period are displayed.

	Zimbabwe DS Timeline						
	2019		2020				
	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
<b>COMPUTER AID INTERNATIONAL</b>							
Baseline Monitoring							
Processing and shipping laptops and buying additional equipment							
Shipping and custom clearance							
In-country visit to Zimbabwe for Digital Citizen test ( 1,000 students)	Visit						
Interim Report	I. R						
Endline Monitoring							
Final Report							F. R
<b>WORLD LINKS &amp; ICDL</b>							
Laptop and equipment deployment							
ICDL Training of Teachers							

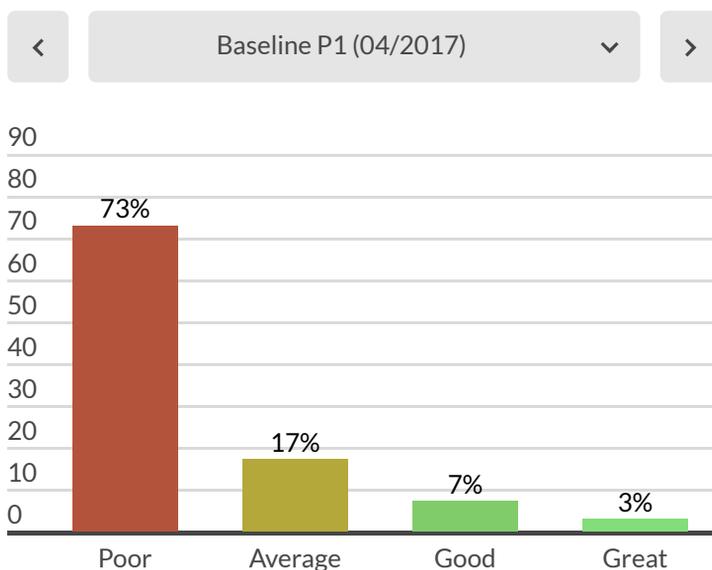
# Project Outcomes

As previously stated, endline monitoring was disrupted by the school closures in Zimbabwe on 24th March. The endline teacher survey was partially completed by 11 respondents, from only 6 of the schools. As such, this section will focus on summarising the overall changes created by the project, comparing a comprehensive amount of data collected across Phase 1 and 2 of the project, including the recent teacher endline. Teacher quotes displayed are from the recent endline monitoring.

## Overall Teacher and Student Impacts

Data here has been collected across 4 sets of surveys during Phase 1 and 2.

Chart 1: Changes In Teacher ICT Confidence

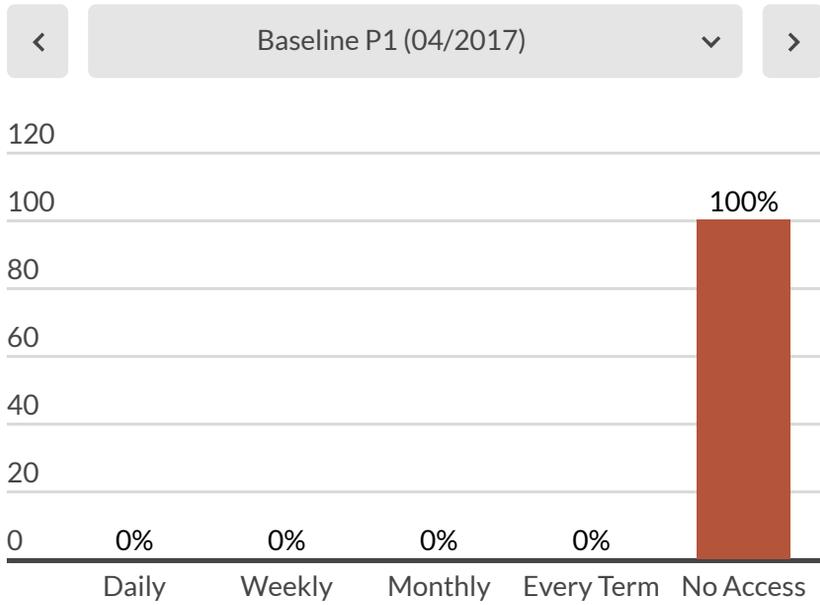


At the start of the project, 73% of teachers categorised themselves in the weakest literacy category stating they had 'Poor' computer skills. In Phase 2, 64% of teachers now categorise themselves in the top two categories 'Good' and 'Great.'

The ICDL training the teachers have received has most likely been the biggest contribution to this increase in confidence.

Chart 2 indicates changes in computer lab usage across both phases. If a teacher selected monthly, the most they would access the computer lab would be once a month.

**Chart 2: Changes In Teacher Computer Lab Access**



Whilst the data from the Baseline in Phase 2 was promising, with 78% of teachers accessing the lab Daily or Weekly, this figure has increased in the Phase 2 endline. The most recent data suggests that 36% of teachers are accessing the computer lab daily and 91% are accessing daily or weekly.



**Rutendo Abishell Hungwa**, Teacher at *Chaminuka Primary School*

"ICDL has been an eye opener. I have learnt a lot. It is going to make my work as a teacher easier."



**Hove Pardon**, Teacher at *Chirodzo Primary School*

"The computers and technology have increased the comprehension of concepts by learners through direct interaction with computers. Research of some topics in the curriculum has been made easy."

**Chart 3: Student Average Class Absorption Ratings**

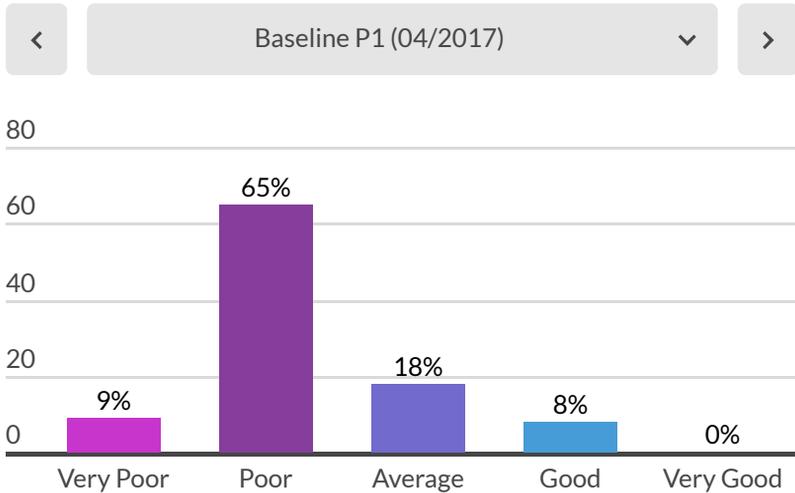


Chart 3 indicates that student absorption has gradually improved from Phase 1 to Phase 2, according to teachers across the schools. Teachers now suggest that 70% of students have 'Good' or 'Very Good' absorption levels in class.

**Chart 4: Student Interaction Ratings Across Project**

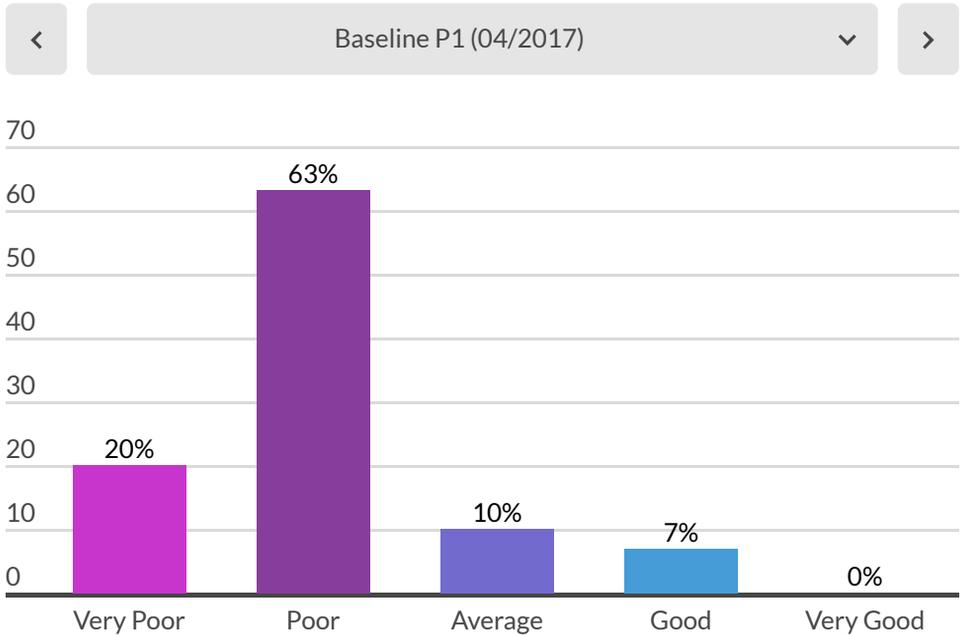


Chart 4 on Page 7 indicates that student interaction levels in class have been improving gradually over the course of the project. In the Phase 1 baseline, most teachers suggested that students had 'Poor' levels of interaction in class. In contrast, in the Phase 2 endline, most teachers suggested that students had 'Good' levels of interaction.

**Chart 5: Student Achievement Ratings Across Project**

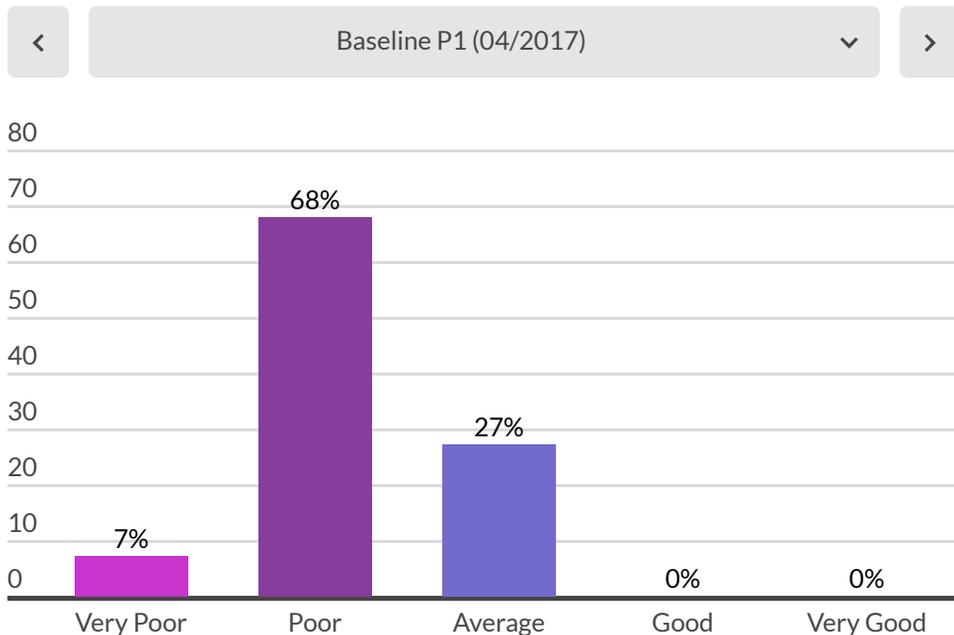


Chart 5 indicates that student achievement levels in classes have also been improving over the course of the project. During the baseline in Phase 1, most teachers felt that students had 'Poor' achievement levels in class. In contrast, most teachers felt that students had 'Good' achievement levels in class, when surveyed for the Phase 2 endline.



**Kenneth Musarafu**, Teacher at Mukurumbira Primary School

"The computers have affected me positively because it gives me access to the internet which I have used to research information about my Geography class."



**Tawanda Mutandwa**, Teacher at Mukurumbira Primary School

"We have improved our sharing ratio from 5 or 6 learners per computer to 2 or 3 learners per computer during lessons."

Chart 6: Changes in Student Confidence with ICT

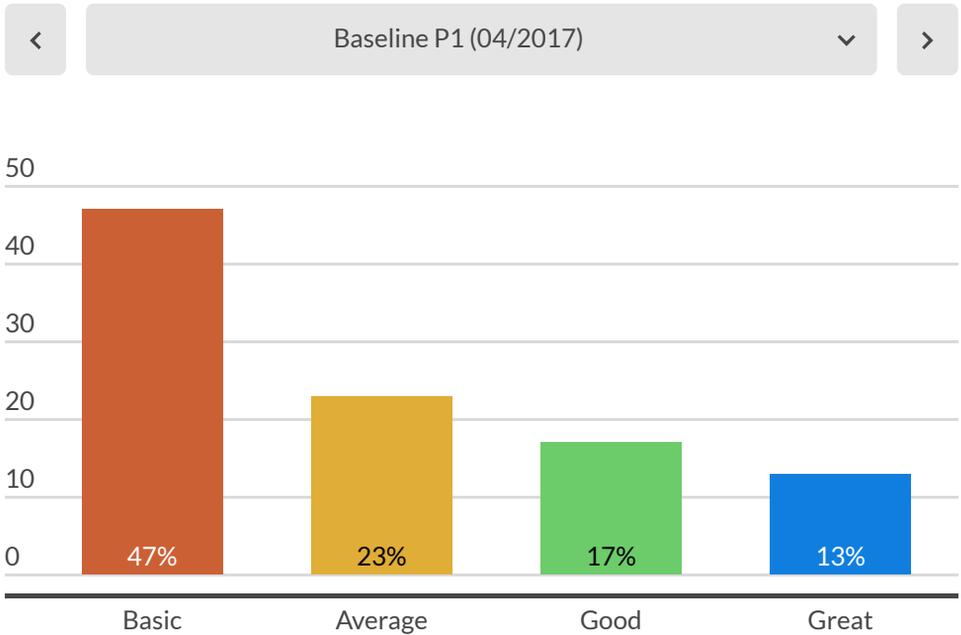


Chart 6 indicates that student confidence in using ICT has improved from Phase 1 to Phase 2; the majority of students now categorise themselves as having 'Average' or 'Good' computer skills, and far fewer believe they have basic skills. Phase 2 Endline data will be collected once schools reopen.

Chart 7: Student Access to Computer Lab

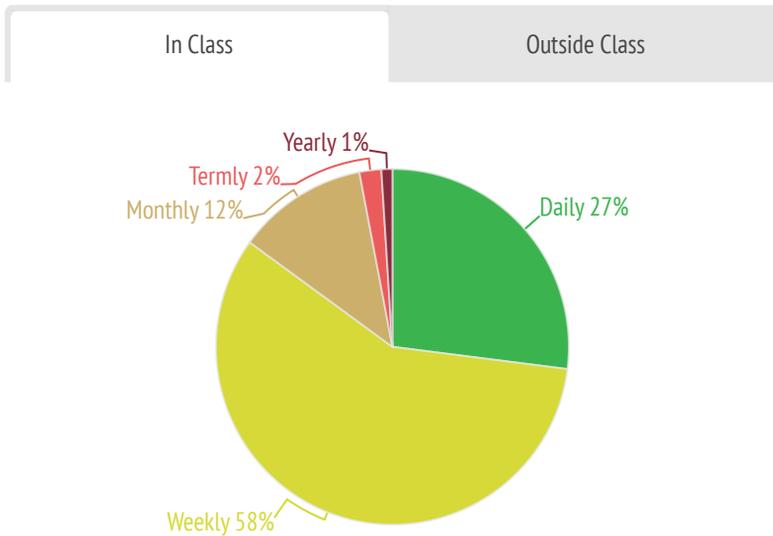
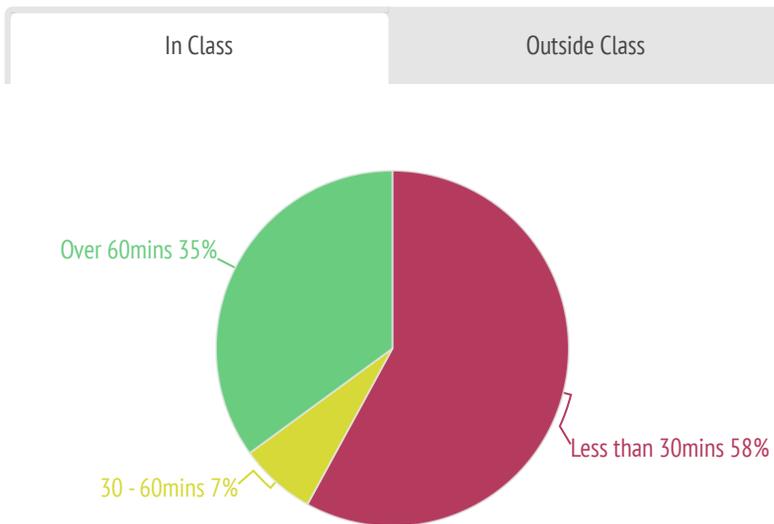


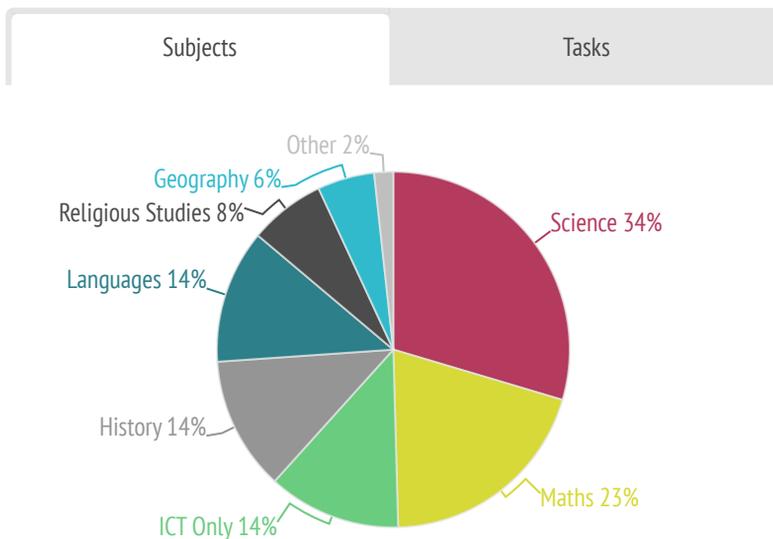
Chart 7 indicates that most students (85%) are accessing their computer labs Daily or Weekly as part of a class. The same is true outside of class, where the majority of students (78%) are accessing the computer lab at least weekly. It should be noted that during in-country visits, both students and teachers seemed very enthusiastic about the equipment and seemed more comfortable using the computers. Some students would even stay later after school in order to continue using the equipment.

Chart 8 shows how long students are spending in the computer lab inside and outside of class, whilst Chart 9 indicates which subjects are explored in classes within the computer labs, and what types of tasks are completed on the computers.

**Chart 8: Duration of Access at Computer Lab**



**Chart 9: Subjects & Topics Explored in Class**



# Overall ICDL Results

The table below shows the results for all ICDL assessments taken across both Phase 1 and 2, from a cohort of 37 teachers who have been assessed.

MODULE TYPE	MODULE	NUMBER OF PASSES	NUMBER OF FAILS	HIGHEST SCORE	AVERAGE SCORE
Digital Citizen	Digital Citizen Plus	11	0	N/A	N/A
Base	Computer Essentials	22	15	100%	87%
Base	Word Processing	24	21	97%	83%
Base	Online Essentials	17	0	89%	83%
Base	Spreadsheets	19	10	97%	85%
Intermediate	Presentations	6	6	100%	90%
Intermediate	ICT In Education	13	5	97%	86%
Intermediate	Computing	14	7	91%	81%



Students at Seke 1 High School taking Digital Citizen Test

# Student ICT Test Results

A total of 766 students across the 11 schools (including Mbizi) took assessment in the Digital Citizen ICDL module (ICDL's introductory ICT module). The Pass rate was 70%.

SCHOOL	# ASSESSED	# OF PASSES	# SCORED OVER 50%	AVERAGE SCORE	% OF PASSES
Chaminuka	93	16	72	58%	17%
Chirodzo	98	34	78	63%	35%
Glen Norah	98	73	97	76%	75%
Hatcliffe	97	20	69	57%	20%
Kudzanayi	92	12	47	49%	13%
Mbizi	49	13	43	62%	27%
Mukurumbira	78	30	70	65%	39%
Mutasa	97	9	78	57%	9%
Seke1	23	12	21	66%	54%
St. Giles	15	1	4	40%	5%
Sunningdale	26	19	26	75%	73%

Students at Chaminuka Primary School take Digital Citizen Test



The table below shows the projected number of students from each school who would have basic ICT skills. These figures are calculated by taking the percentage of students who gained over 50% in the Digital Citizen test at each school and multiplying this by the total student cohort at the school.

SCHOOL	SCHOOL TYPE	# OF STUDENTS	% SCORED 50% OR HIGHER	PROJECTED # STUDENTS WITH BASIC ICT SKILLS
Chaminuka	Primary	2,570	77%	1,979
Chirodzo	Primary	1,482	80%	1,186
Glen Norah	Primary	1,356	99%	1,342
Hatcliffe	Primary	2,700	71%	1,917
Kudzanayi	Primary	1,600	51%	816
Mbizi	Primary	1,226	88%	1,079
Mukurumbira	Primary	807	90%	726
Mutasa	Primary	1,400	80%	1,120
Seke1	Secondary	2,800	91%	2,548
St. Giles	Special	165	27%	45
Sunningdale	Primary	2,146	100%	2,146

**Students at Mutasa Primary School undergoing their Digital Citizen Test**



# Summary Of Results

A total of 37 teachers (more than number originally budgeted for) have been trained in ICDL modules with 26 being certified in at least 1 ICDL module, and 11 being certified in Digital Citizen Plus. 20 teachers have been certified in 4-6 ICDL modules and 7 of those have passed 6 modules .

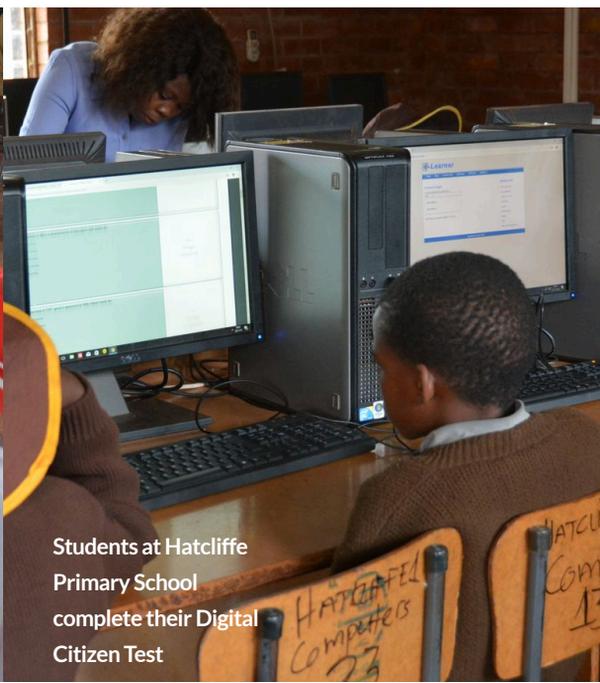
There have been differences in outcomes among the schools, and the results of the student Digital Citizen testing indicate this. The results indicate that Glen Norah is the highest achieving school, with 75% of their 98 students passing the ICT test. In contrast, St. Giles and Mutasa performed the lowest in the testing.

St. Giles is a special school for children with mental and physical disabilities and therefore faces unique challenges. It should be noted that 6 of the schools achieved an average score of 60% or above and therefore many of their students were very close to passing.

The student who gained the highest score across all the schools (Stanslous Kutekwa) will be awarded with a laptop, as will the top performing school (Glen Norah). The top three schools will be awarded with Gold (Glen Norah), Silver (Chirodzo), and Bronze (Mukurumbira) plaques to honour their progress and achievements.



Students at Mukurumbira Primary School complete their Digital Citizen Test



Students at Hatcliffe Primary School complete their Digital Citizen Test

# Overall Impacts

14,904

students with  
basic ICT skills  
across all  
schools

266

beneficiaries  
certified in  
ICDL  
modules

61% average  
score in  
student ICT  
assessments

103 ICDL passes  
for female  
teachers with  
average score of  
84%

85% students  
accessing  
computer lab  
Daily or  
Weekly

26 teachers  
ICDL certified  
with 115  
passes



Students at Glen Norah Primary School take their Digital Citizen Test

# Case Studies



## Sofia Magaya

Sofia is a Grade 7 teacher at Sunningdale 2 Primary School, teaching all Primary subjects. She passed all 6 ICDL modules (Computer Essentials, Online Essentials, Word Processing, Spreadsheets, ICT in Education, Computing) on her first attempt, with an average score of 86% across all modules.

Sofia utilises the lab weekly for 1 hour, teaching students using PowerPoint exploring mainly the Sciences and Languages.

**Quote:** "I can use PowerPoint to present my lessons, spreadsheets for documentation and Microsoft Word for all related processes in the teaching and learning environment."



## Stanslous Kutekwa

Stanslous is now a Grade 7 student at Glen Norah 7 Primary School in Harare. He was the highest achiever across all schools for the Digital Citizen test, scoring 100%. As such, he is being awarded with a laptop

The first time Stanslous accessed a computer was at school as a result of the project. He normally accesses the computer lab weekly for class and daily outside of class.

# SUSTAINABLE DEVELOPMENT GOALS

## 4 QUALITY EDUCATION



### Quality Education

**This project contributes to Target 4.4 of SDG 4 which states:**

*By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.*

Both teachers and students at project schools are directly gaining and have the opportunity to gain relevant technical skills that will improve their job prospects, contributing to Target 4.4.

## 5 GENDER EQUALITY



### Gender Equality

**This project contributes to Target 5.B of SDG 5 which states:**

*Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women.*

By working exclusively with schools with similar ratios of boys to girls and in some cases having more female students, usage of equipment by both genders ensures that no individual is excluded.

## 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



### Industry, Innovation And Infrastructure

**This project contributes to Target 9.C of SDG 9 which states:**

*Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020.*

By providing 10 schools with computer labs and assistive technology such as projectors, thousands of students have access information and communications technology.

## 12 RESPONSIBLE CONSUMPTION AND PRODUCTION



### Responsible Consumption And Production

**This project contributes to Target 12.5 of SDG 12 which states:**

*By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.*

ICT Equipment used in projects is donated largely from companies; equipment is data-wiped and refurbished before being sent to projects. Therefore, this project is promoting the reuse of equipment and reducing e-waste.

# Project Summary

The Zimbabwe Digital Schools project has been Computer Aid's most successful project to date. It has been successful in providing ICT infrastructure to all schools and expanding this infrastructure in the second phase, so that more classrooms and teachers can incorporate ICT and digital educational content.

The capacity building with ICDL modules has been structured so that teachers with varying levels of ICT literacy can gradually improve their ICT skills and become certified through module assessment. In Phase 2, teachers have had the opportunity to complete outstanding ICDL Base modules, or take further ICDL Intermediate modules. This has helped to ensure that teachers from across the schools have a good minimum standard of ICT skills, and can fully-expose the effectiveness of the computer lab in their teaching.

This is also the first project in which students have been tested across all schools in order to prove how the project has impacted them. These were predominately students who have been accessing the computer labs since they were installed in Phase 1, and the results indicate that all except 2 schools had an average score above 57%. It should be noted that the pass rate for the Digital Citizen assessment is high at 70%, and many students who are still competent with computers have come very close to passing.

The remaining 234 students will be tested once schools reopen from the government lockdown and the endline monitoring will also be run with students and school principals. There will also be a closing ceremony with all the schools, where the local partner will award the plaques to the best performing schools.



Students from Glen Norah  
Primary School