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Rapid Survey on Teachers' Competencies on the use of ICT in Teaching in Zambia



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Client: UNESCO/Ministry of General Education of the Republic of Zambia

Report written by:

Twaambo Chiinza TVTC

Mabbola Muungu CLCE

Aubrey Moono CLCE

Mukumano Nakubiyana TVTC

Kalungulungu Misheck TVTC

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Acronyms

CapED	Capacity Development for Education
CFIT	China Funds in Trust
CLCE	Charles Lwanga College of Education
COVID-19	Corona Virus Disease 2019
EdTech	Educational Technology
ICT	Information and Communication Technology
ICT-ED	Information and Communication Technology in Education
ITECE	ICT Teacher Education Centers of Excellence
LMS	Learning Management System
MoGE	Ministry of General Education
MoHE	Ministry of Higher Education
OER	Open Education Resources
SD4	Sustainable Development No. 4
TOR	Terms of Reference
TV	Television
TVTC	Technical and Vocational Teachers' College
UNESCO	United Nations Educational, Scientific and Cultural Organization

Executive Summary

The aim of the rapid survey was to determine the ICT competency levels of teachers at primary and secondary schools in Zambia in order to establish a starting point for a competency development in the use of ICT as a pedagogical tool in the COVID-19 era and beyond. A five (5) member team of lecturers from Charles Lwanga College of Education (CLCE) and Technical and Vocational Teachers' College (TVTC) carried out the survey with the support of UNESCO - Capacity Development for Education (CapED) programme. Data was collected using a Questionnaire developed using Google Forms. The collected data was analysed using the thematic analysis.

The survey revealed that despite that fact that 48.9% of the sampled 850 teachers, used ICTs to research for preparation of lesson content, they did not actively incorporate it in their practice as a vehicle of delivery of subject content. In this respect, there is need to have them trained in the pedagogical use of ICTs so that there is effective use of the available infrastructure in schools for effective teaching. They also have to be trained on how to prepare interactive, digital lessons for self-paced learning, as well as on how to tutor online.

Once the teachers are trained, the accelerated progress towards the attainment of the MoGE COVID-19 response and recovery plan which highlights the continuity of learning will be achieved. It is hoped that recommendations from the survey would provide the basis for the development of relevant and adapted training materials to address the ICT training needs of teachers.

1. Introduction

COVID-19 outbreak is having serious effects on children and the education system in Zambia. Nation-wide school closure has been implemented since March 20, 2020 as part of the government's COVID-19 response measures, resulting in disruption of learning for more than 4.4 million children and adolescents and the provision of critical services to millions of children and youth, especially the most disadvantaged. Teachers also face unprecedented challenges of ensuring the continuity of learning for their pupils while caring for their own and their families' safety. The evidence from the Ebola outbreak experience in Western African countries and DRC indicates that the prolonged school closure puts children especially girls, at increased risk of teenage pregnancy, sexual abuse, child marriage and other harms. Many schools in rural area and disadvantaged settings are under-resourced and ill-equipped to provide support to the students learning at home and parents are unable to support children's learning, widening the equity gap between the well-off and worse-off in learning, potentially leading to life-long negative impact. The longer children are out of school, the higher the risks that vulnerable children will not return.

Recognizing the unprecedented scale of event and impact on the education system, the Ministry of General Education (MoGE) developed its sector response plan in early April guided by the national response plan. The MoGE COVID-19 response and recovery plan highlight the continuity of learning as its core priority and presents a series of education delivery options and strategies. The education sector's response strategy mirrors the MoGE's sector response and recovery plan as well as the National Response Plan.

This report outlines the rapid survey which was carried out to collect the evidence on Teachers Competencies on the use of ICT in Teaching in order to determine the type/level and scope of ICT related interventions to be designed for teachers as part of the response to the Covid 19 pandemic in Zambia. This rapid survey, which was conducted online, was carried out from 20th May to 12th June, 2020, under the auspices of the UNESCO's Capacity Development for Education (CapED) Programme in Zambia. The report captures the activities, findings and the recommendations made in order to ensure that primary and secondary teachers are equipped with the necessary competencies in the use of ICT as a pedagogical tool in order to support

eLearning more effectively and ensuring that learning continues during, and even after, the entire period of the pandemic.

1.1. Purpose of the survey

The aim of the rapid survey was to map out the digital literacy and ICT competences as a pedagogical tool among primary and secondary teachers in Zambia. Recommendations from the assessment would then be the basis for the development of relevant and adapted training materials to address the ICT training needs of teachers. In addition, the developed materials are expected to develop an instructional manual for teachers on digitization of materials and development and utilization of multimedia content for teaching and learning as well as on how to create interactive online lessons most suitable for a self-paced learner.

1.2 Key tasks/deliverables

- Adapt and review the rapid assessment tools for the rapid assessment survey on teachers' competencies on the use of ICT in Teaching in Zambia
- Collect data from the targeted teachers based on the agreed sample using the Google Forms to reach out to the targeted sample
- Analyse the data collected using Excel or SPSS statistical package
- Draft the detailed or full report based on the findings
- Present the draft report to UNESCO and officials from MoGE and Ministry of Higher Education (MoHE) via zoom meeting to receive feedback.
- Finalise the report based on the feedback provided during the online zoom meeting

2. Background

2.1 UNESCO's support towards the implementation of MoGE's sector plan

UNESCO is committed to supporting the implementation of government's education sector response and recovery plan to Covid 19 pandemic which has disrupted teaching and learning throughout the country. Building on past experiences, lessons learnt and best practices harnessed from the implementation of the CFIT project in Zambia, UNESCO plans to use its comparative advantage by supporting interventions of the education sector response and recovery plan by focusing on teachers. This will help strengthening synergy between Capacity Development for Education (CapED) programme and CFIT project.

Given its strategic focus and delivery approach for providing good quality education through teachers in Zambia, UNESCO's Capacity Development for Education (CapED) programme offers an opportunity to contribute towards the implementation of the Education Contingency Plan for COVID-19. This will be achieved by building on the successes of the CFIT project in Zambia. Through the established two Centres of Excellence, that is Charles Lwanga College of Education (CLCE) and Technical and Vocational Teachers' College (TVTC), the CFIT project contributed towards the enhancement of teacher education through Information and Communication Technology (ICT) infrastructure provision. Teacher educators and teachers from the satellite centres were also equipped with the competences in use of ICT as a pedagogical tool for quality teaching and learning, development of digital content and maintenance and repair of ICT infrastructure. In addition, the project addressed issues of knowledge creation and delivery of ICT capacity building programmes and networking and partnerships to enhance knowledge sharing and school-based continuing professional development for teacher educators and teachers.

In particular, the two Centers of Excellence provides an opportunity in terms of providing additional capacity for eLearning and online tutoring by trained teachers. The fact that the Learning Management System (LMS) at these two ICT Teacher Education Centers of Excellence (ITECE) are fully operational (with equipped studios for content production, backed by high powered Servers and Internet connectivity), entails that online training for teachers and

dissemination of appropriate materials that addresses the health, safety and well-being of teachers and learners during this pandemic can be easily undertaken in a cost effective manner.

Furthermore, both technical and academic staff at the two ITECE have been adequately trained on: i) use of the ICT infrastructure, ii) content development and digitisation of learning materials, iii) pedagogical use of ICT for teaching and learning including among other things iv) creation of Open Education Resources (OERs). Therefore, in line with the developed Education Contingency Plan for COVID-19, limited CapED funds can be leveraged to support the ministry in implementing interventions targeted at teachers in collaboration with the CLCE, TVTC, Teaching Council of Zambia and Cooperating Partners.

2.2 Justification

Schools are shut, so how will children learn amid the covid-19 pandemic? More importantly, what will be the role of teachers in supporting learning interventions which have been outlined in the sector plan? As indicated above, MoGE and stakeholders have initiated works towards putting up measures to ensure the continuity of learning. Where schools are closed, there should be solid plans to support continuous educational activities, such as internet enabled self-learning opportunities, radio, and Television (TV). These efforts must aspire to reach all children in Zambia with an appropriate platform, with due consideration for girls, children with disabilities refugees and migrants and any other vulnerable groups. The use of information and communication technologies (ICT) such as radio, TV and internet as delivery platform for continuity of learning is dependent on many factors such as access to electricity, access and usage of radio, TV, computers, mobile phones, internet connectivity and digital skills for both learners and teachers.

Teachers are the backbone of any education system and the frontline or key personnel required for reaching learning goals, regardless of the context and situation. In terms of the effective and efficient implementation of the Education Contingency Plan for COVID-19, teachers will be on the front line in ensuring that learning continues during the entire period of the pandemic. To the extent that contingency interventions appear appropriate, it was important to assess the pedagogical competencies of teachers on the use of ICT in order to determine their capacity to

support internet enabled self-learning opportunities, radio, and Television (TV) effectively. In fact, UNESCO's ICT Framework for teachers emphasizes that it is not enough for teachers to have ICT competencies and be able to teach them to their pupils. Teachers need to be able to help the pupils become collaborative, problem-solving, creative learners through using ICT so they will be effective citizens and members of the workforce.

Given, therefore, the centrality of ICT in the outlined interventions in the Education Sector Contingency Plan for COVID-19, it was important that a rapid survey on teachers' competencies on the use of ICT was undertaken. Findings of the rapid survey would help develop evidence-based interventions for teachers to effectively support eLearning or internet enabled self-learning opportunities more effectively.

3. Methodology

3.1 Introduction

A five-member team from CLCE and TVTC carried out an assessment with the support of UNESCO's Capacity Development for Education (CapED) Programme in Zambia, where a rapid survey was conducted among primary and secondary school teachers to determine the ICT competences from 20th May to 12th June, 2020. The team assessed the teachers' ICT competences and made recommendations for the development of ICT training materials which would respond to the training needs of the teaching.

The assessment survey was conducted through a Questionnaire developed using Google Forms. The Questionnaire was widely shared in many teachers' forums and WhatsApp groups. It was administered to class teachers, senior teachers, deputy teachers, head teachers at primary school as well as to class teachers, head of sections, head of departments, deputy teachers, and head teachers at secondary school. The rapid survey's targeted demographic was male and female teachers from rural areas, peri-urban areas and urban areas with varying years of work experience. The questionnaire had both objective and subjective questions. The objective questions were to make sure quantitative data was collected on the ICT use and teachers' competencies at various levels in schools. The subjective questions were to ensure that

qualitative data was collected as individuals expressed their views and feelings on their implementation of ICT in their practice. The use of objective and subjective question methods helped to establish the validity of the data collected from schools.

3.2 Sample size and sample selection

The Teacher Rapid Assessment Survey initially targeted about four thousand two hundred (4,200) rural, peri-urban and urban teachers, both teaching at primary and secondary schools, giving an approximate 3% of all registered teachers in Zambia. Of the expected sample size, only eight hundred fifty (850) teachers participated in the survey.

Due to Covid 19 restrictions, the sample selection was strictly online. Purposeful selection of participants, who could access internet and belonged to the WhatsApp groups were sampled to participate in the survey. School institution administration groups, Teacher Groups Forums, and In-service student teachers' forums on WhatsApp social media at CLCE and TVTC were selected to participate in the survey.

3.3 Data Collection

A questionnaire is a device that consist series of standardized questions intended to collect data from respondents on some problems under investigations. In this regard, an online questionnaire was created on Google Form, which was posted online to the selected WhatsApp groups to respond.

3.4 Data Analysis

The data analysis was done using Excel and the Statistical Package for Social Sciences (SPSS). These analysis packages enabled the researchers to handle raw data efficiently. The analysis includes both descriptive and inferential analysis. The research used descriptive analysis to analyse the frequency and percentage of the overall population in the demographic background. Besides, it is also used to determine the mean, standard deviation, frequency and percentage. Inferential statistics (t-test) were also used to analyse the research. The data was analysed through computation of frequencies, tables, percentages and tabulations.

4. Findings/Results Analysis

The aim of the assessment was to determine the ICT competency levels of teachers at primary and secondary schools in Zambia in order to establish a starting point for a competency development in the use of ICT as a pedagogical tool. The survey, which was conducted online, managed to capture a total of 850 teachers. The assessment revealed that 99.9% of the teaching staff had competence in the basic use of computers and productivity tools but lacked skills in preparation of interactive online lessons and online teaching strategies. Whereas 48.9% of the teachers used ICTs to research for preparation of lesson content, they did not actively incorporate it in their practice as a vehicle for teaching. In this respect, there is need to have them trained so that there is effective use of the available infrastructure for effective teaching. Data was analysed using the following themes: Presentation of Respondent Demographic/Personal Data; Presentation and Analysis of Results on Learning ICT; Presentation and Analysis of Results on Access to ICT Equipment; Presentation and Analysis of Results on Access for Learning, Teaching or Training Purposes; Presentation and Analysis of Results on Digital Literacy; Presentation and Analysis of Results on Challenges and Practical Solutions; and Presentation and Analysis of Results on Covid 19 Literacy.

4.1. Presentation of Respondent Demographic/Personal Data

This theme gathered basic demographic and personal data about their sex, work experience, location of their school and their position in school. Of the 850 respondents, 637 (74.9%) were male and 213 (25.1%) were female as shown is Figure 1. Since this was an online survey, it indicated that more

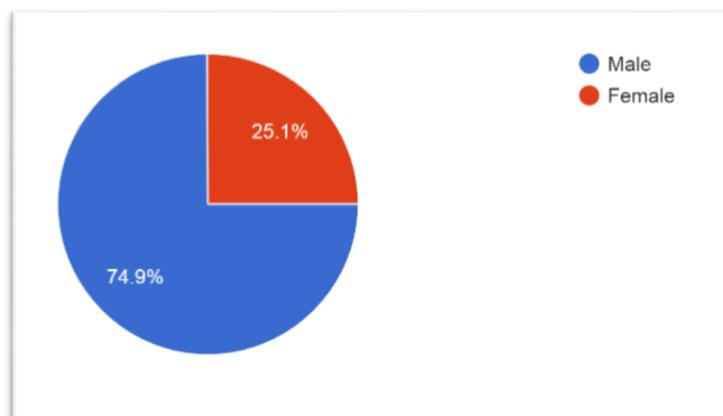


Figure 1: Demographic information about the sex of the respondents

male teachers had better access and opportunity to respond to the survey. The survey expected

a good balance between male and female teachers to have an inclusive understanding of the readiness by both genders for the training.

The survey was also interested into revealing if work experience could be a good variable in responding to the preparedness. The survey indicated that 296 (34.8%) of the respondents had work experience of between 10 to 20 years. Of these respondents, 9.3% were female teachers while 25.5% were male teachers. 237 (27.9%) respondents had a work experience of between 5 to 10 years. Of this statistic, 4.9% were females and 22.9% were males. Generally, the survey indicated that teachers with access to technology was not only the youthful teachers with less than 5 years of experience but mostly between 5 and 20 years as indicated in the Figure 2.

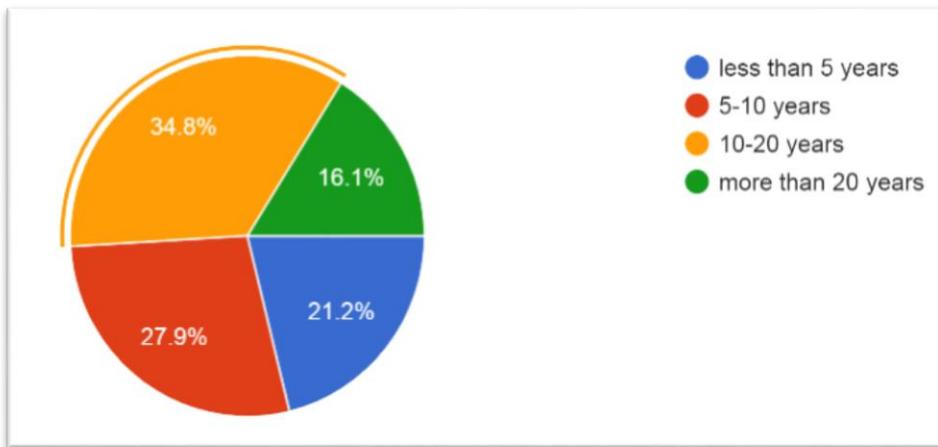


Figure 2: Demographic information about work experience of the respondents

As with the demographic information of the teachers, the survey indicated that the rural schools accounted for the majority of the respondents.

The survey results accounted for 31.6% of teachers from rural primary schools followed by 29.4% of teachers from rural secondary. This indication gave an account that the rural school-based teachers could also comfortably participate in the training of teachers in the use of technology as a platform for teaching.

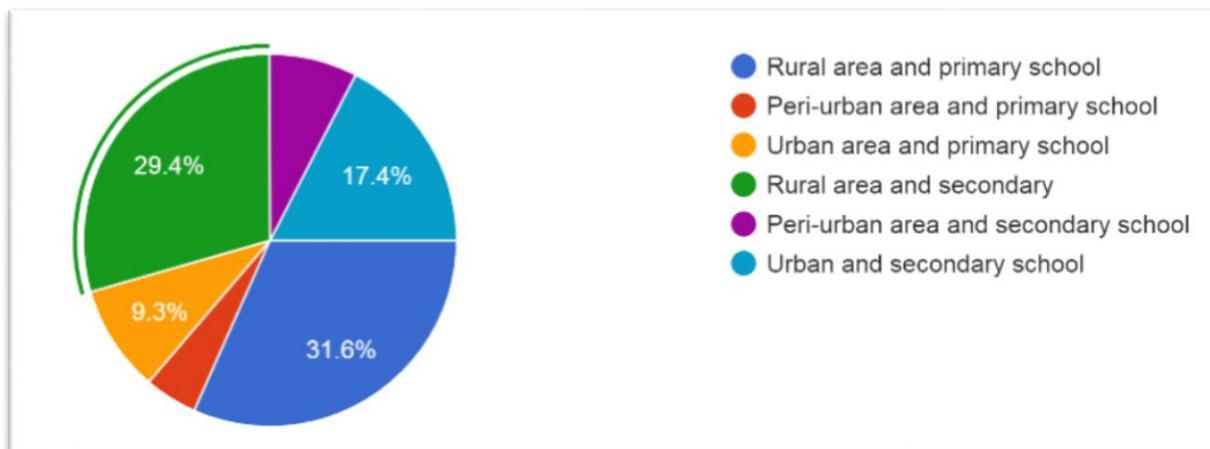


Figure 3: Demographic information about geographical location of the respondents

Table 1: Demographic information about geographic location by sex of the respondents

Geographic Location	Female	Male
Peri-urban	2.6%	9.6%
Rural	9.1%	30.2%
Urban	12.0%	49.1%

4.2. Presentation and Analysis of Results on Learning ICT

Under this theme, the survey intended to gather information on where and at what level respondents learnt ICT as well as gathering information on the actual skills they possess. The findings were that the majority of both male and female teachers learnt ICTs through formal training. 45.8% responded that they learnt ICT while upgrading their academic qualifications from diploma to degree while 28.2% responded that they learnt while doing their first training as teachers. Other means that teachers learnt ICT were through Personal efforts through workshops and short courses (39.5%), ICT workshop outside the school (22.8%), online community or website such as YouTube (13.2%), school based CPD on ICT by a more experienced/knowledgeable teacher (17.5%) and school based CPD on ICT by experts from

outside the school (10.5%). Very few learnt the skills through teaching themselves and smart phones. This gives a good indication that formal training is key.

As of data on actual skills they possessed, there was sufficient evidence that many of the respondents had good knowledge with packages such as Windows's File Explorer (e.g. My Computer) and Emails (Figure 4).

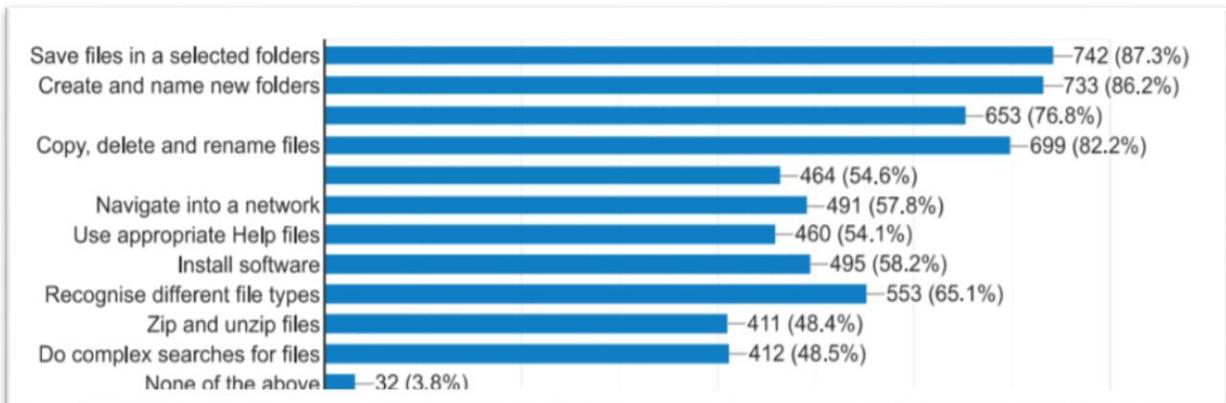


Figure 4: Skills in Windows's File Explorer

The skills that had a hit rate of more than 54.1% of responses were save files in a selected folder; create and name new folders; navigate between existing folders; copy, delete and rename files; select and navigate between drives and directories; navigate into a network; use appropriate Help files; access emails; create and send emails; access and use address book entries; locate Sent and Deleted messages; store messages in folders; and add attachments to emails.

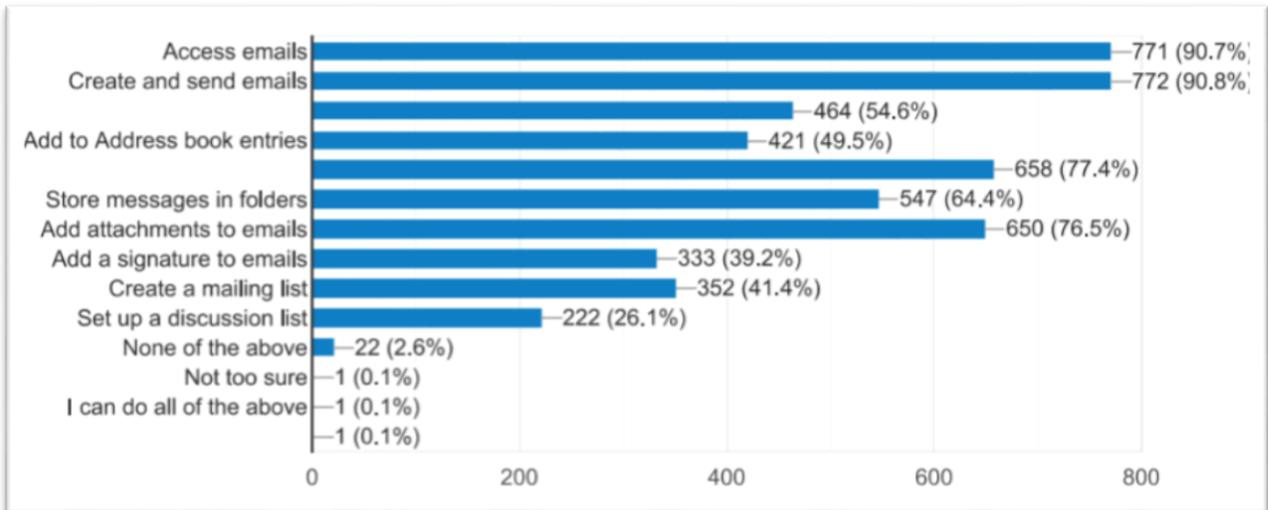


Figure 5: Skills in emailing application

Other skills that receive a hit rate of over 59.9% were create materials for assignments (e.g. handouts, tests); access research on the Internet; communicate with others (eMail, Facebook, Instagram, Snapchat, Twitter, etc.); posting content to a website (Facebook, YouTube); download music / videos for use in the classroom; updating software / games / patches / drivers, etc; create materials for assignments; download an assignment; access research information from the Internet and take and use photos in class.

On the other side, all the following skills had a hit rates of below 48.9% and below: send an email to a class or colleagues; communicate with your students online; upload an assignment; make a video/cartoon for use as a teaching aid; create a visual story using Power Point or similar; create an audio story or podcast; conduct a survey, table the results and produce graphs; and use interactive web-sites (Mathletics, etc.).

The findings were indicative of the fact that most the teachers possessed basic to intermediary levels skills in ICT. They however did not use their ICT skill sets in actively incorporating it in their practice as a means of teaching.

4.3. Presentation and Analysis of Results on Access to ICT Equipment

This theme intended to gather data on types of ICT devices schools used for educational purposes, the proportion of ICT equipment (computers, interactive white boards, laptops, data projectors) that were fully operational in schools, and how many desktop computers were installed in specialised rooms for educational purposes. The survey revealed that the most widely used devices were the desktop computers without internet access (64.8%) followed by the printer (61.9%). Other commonly used devices were desktop computer with internet access (24.8%), non-internet-connected laptop, tablet PC, netbook or mini notebook (34%), internet-connected laptop, tablet PC, netbook or mini notebook (25.2%), mobile phone provided by the school (10.6%), interactive whiteboard (11.8%), digital camera (9.8%), data projector (30.7%), photocopier (50.5%), scanners (31.4%), flash discs (45.9%), radio (11.5%) and Television (22.6%). Respondents who indicated that they had none of the above listed ICT devices was 10.5%.

Generally, from the data above, 89.5% of the respondents indicated that their schools had one form or another computer device. Statistics further indicated that majority of the schools had non-internet connected computers. These findings are indicative that use of ICT as a platform of teaching is possible since most schools have computers provided those without internet are assisted with connectivity.

As with proportion of ICT equipment that were fully operational in schools, 588 (69.2%) of the schools indicated a proportion of less than 50% of their computers as functional. Most hit were rural schools. 67.7% indicated less than 50% functional. Peri-urban and urban schools posted 11.4% and 20.9% respectively. Respondents who indicated a proportion of between 50 to 75% as fully functional was 172 (20.2%). Respondents who indicated a proportion of between 76 to 90% as fully functional was 60 (7.1%) Respondents who indicated a proportion of over 90% as fully functional was 30 (3.5%).

On the sub-theme of how many desktop computers were installed for educational purposes in specialised rooms, the survey indicated that 37.8% (Figure 4) of rural schools didn't have computers at all. The survey also found that 4.12% of the peri-urban and 3.83% of urban schools didn't equally have computers. Further the study has shown the following percentages in terms

of number of computers per region. Of the schools that had less than 10 computers, peri-urban had 1.3%, rural schools had 1.4% and urban area school had 4.4%. Schools that had between 11 and 20 Computers, peri-urban had 0.4%, while rural schools and urban schools both had 2.0%. as of schools that accounted for between 21 and 30 Computers, peri-urban accounted for 3.9% while rural schools accounted for 12.9% and urban schools had 8.1%. Interestingly of the schools having above 30 Computers, peri-urban only had 2.6% whereas rural area schools had 6.9% and urban school had the highest in this category which was 8.7%.

Conclusively, this indicates that rural schools have the least number of computers followed by peri-urban schools while urban schools have a slightly higher number of computers. The study reveals that more computers are needed in schools, particularly rural ones.

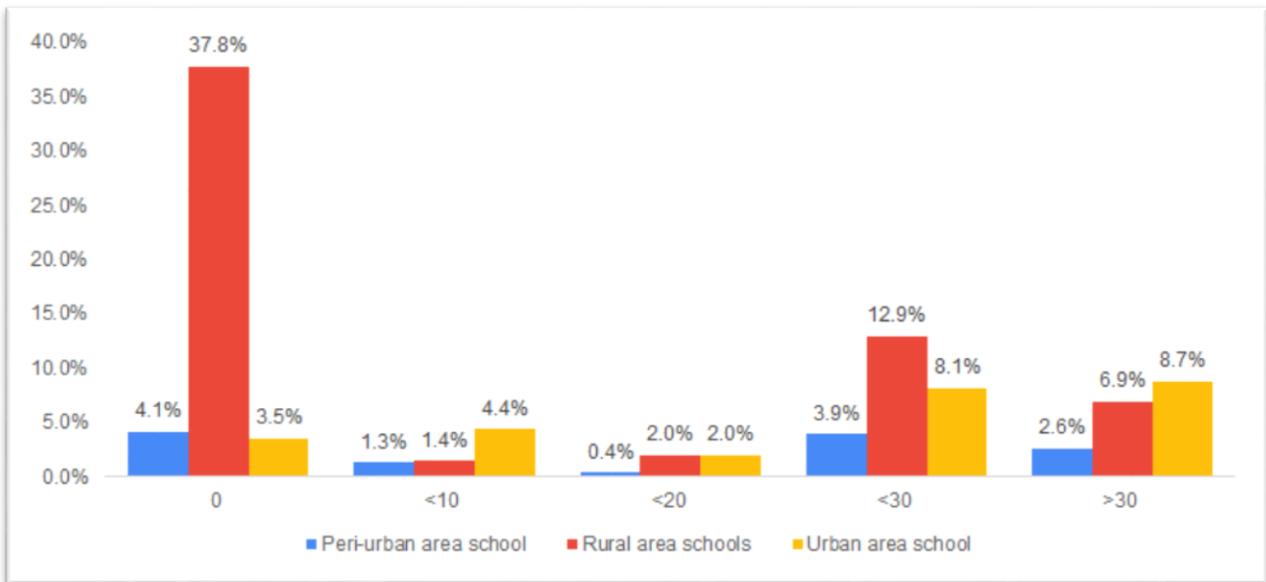


Figure 6: Response rates on number of computers installed in specialised rooms

Another sub-theme under theme 4.3 intended to gather data by what means schools accessed the Internet. The study revealed that the Internet in schools is mainly accessed through cellular network (MTN/Airtel/Zamtel) which accounted for 72.2% (Figure 5). This represented a population of 614 respondents. Of these respondents 154 was female while 460 was male. Of 154 females, 101 (65.6%) from peri-urban and rural schools while 53 (34.4%) urban and of 460 males, 380 (82.6%) was from peri-urban and rural schools while 80 (17.4%) was in urban.

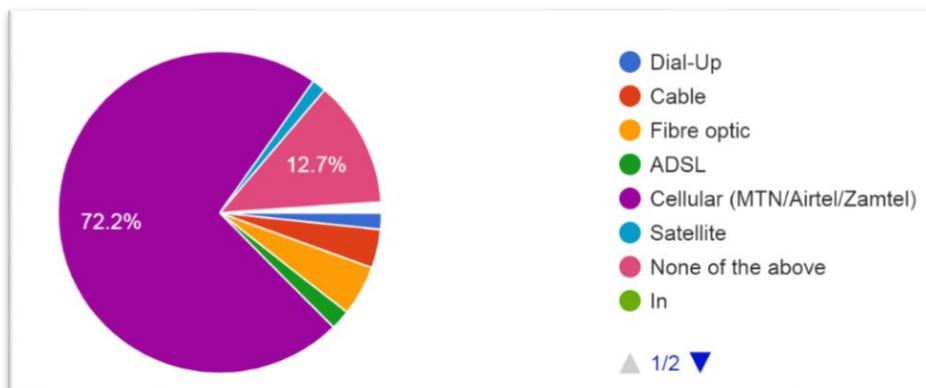


Figure 7: Means of accessed the Internet by schools.

The study further revealed that 5.1% (43 respondents) of the schools connected via Fiber cable. of the 43 respondents, 11 was female while 32 were male. Out of the 11 female 4 were from peri-urban and rural schools representing a 36.4% while 7 were from urban which represented a total of 63.6%. Of the 32 male respondents 13.6% were from peri-urban and rural schools and the remaining 86.4% were from urban schools. This therefore indicates that most teachers in urban schools accessed internet through Fibre technology.

Cable had 33 respondents which represented 3.9% of total. 30.1% were from peri-urban and rural schools while 69.3% were from in urban areas.

The study has also shown that Dial-up, ADSL Satellite, etc. were being used but were not very common means of connectivity as they accounted for mostly less than 2%.

Besides the sub-themes above, another sub-theme intended to gathered data on who provided the schools technical support in the maintenance of ICT equipment. A total of 382(44.9%) responded that a fellow member of staff helped maintain ICT equipment, peri-urban had 11.7%, Rural 45.1% and Urban 71.8 While 209 (24.6%) responded that a staff from the IT or computer studies department helped.

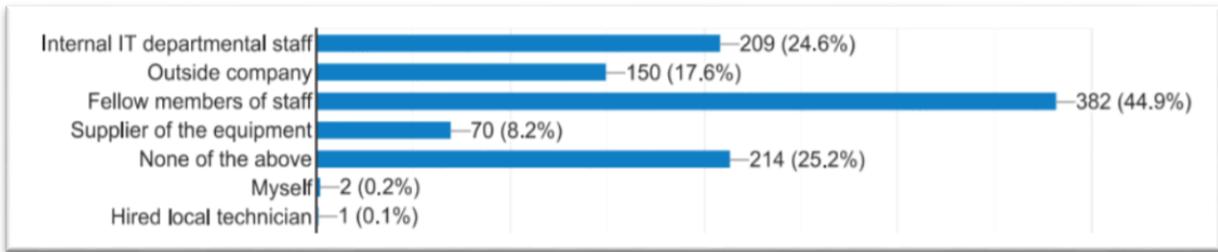


Figure 8: Schools' technical support in maintenance of ICT equipment

Peri-urban had 14.7%, Rural had 26.6% and Urban 37.6%. In addition, 150 (17.6%) responded that the equipment was maintained by an outside company. 70 (8.2%) responded indicated that their equipment was maintained by the supplier of equipment. The survey also revealed that some schools (25.2%) didn't have any maintenance plan in place. Generally, for most of the schools, the statistics pointed out that maintenance of computers was being done by a fellow member of staff.

4.4. Presentation and Analysis of Results on Access for Learning, Teaching or Training Purposes

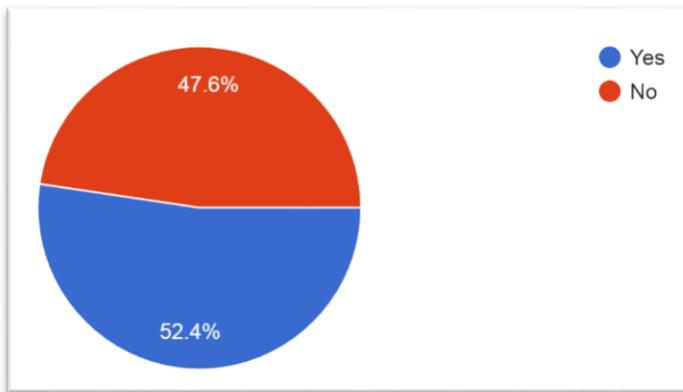


Figure 9: Access to internet services

From the total number of respondents, 405 participants, representing 47.6% said their schools did not have access to internet services while 445 participants representing 52.4% said their schools had internet services as graphically presented in Figure 6. Of the numbers without internet services, 213 were women. The

study has further shown that 96 women out of the total 213 who participated in the survey did not have access to internet services, which represents 45% of the total women and 11.3% of the total participants in the survey. In addition, 39 out of 96 women who did not have internet access were from the rural primary schools which accounted for about 40.6% of women without internet access and 18.3% of all women who participated which also translates into 4.6% of total participants. Further, a

total of 21 out of 96 women were from rural secondary schools which accounted for about 21.9% of women without internet access and only 2.5% of the total participants in the survey, and 18 out of 96 women were from urban primary schools which accounts for 18.8% of the total women without internet. Lastly, a total 13 out of 96 were urban secondary school women, who accounted for 13.5% of the total women without internet service access. This confirms that the number of women without internet service access was higher in rural secondary schools compared to urban secondary schools. Similarly, it was very high with women in rural primary compared to women in urban primary schools, standing at the ratio 40.6% to 17.7%.

Of the 46.7% of school without access to internet services, the respondents indicated the following reasons: it was expensive; schools did not have sufficient funds to pay for the services; lack of electricity; and lack or poor of internet connectivity. Others indicated that the schools did not have infrastructure or equipment, such as computers.

The survey further gathered information on types of gadgets respondents used to access to the internet services. The study has shown that 84 women out of 719 participants use Smartphones to access internet, which represents 11.7% of female teachers further representing only 9.9% of total participants in this survey. 34 out of 84 were women from rural primary schools giving a 40.5% of all women participants while 10 out of the 84 women were from urban primary school representing 11.9%. 19 of the 84 women were from the rural secondary schools which represents 22.6% while 12 out of 84 women were from urban secondary schools, giving us 14.3%.

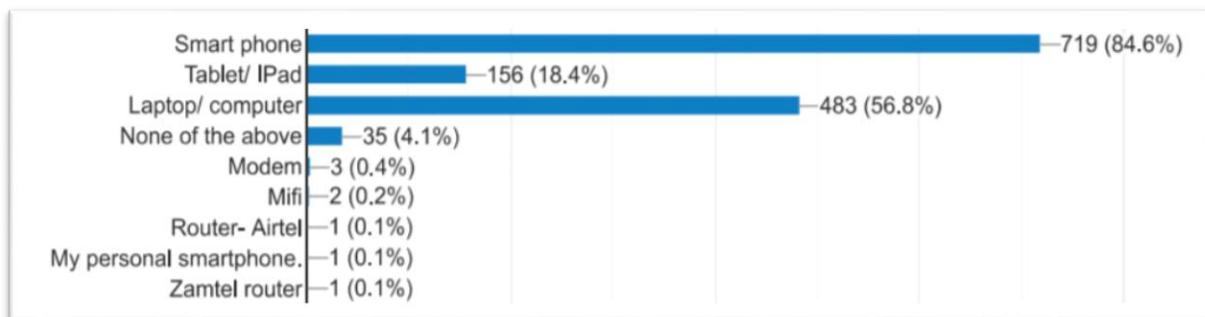


Figure 10: Types of gadgets used to access to the internet services

The results, therefore, show that there were more rural secondary female teachers than urban teachers using Smartphones to access internet giving the ratio of 23% to 14%, respectively. The

gap was even wider with rural primary female teachers against urban primary female teachers with the ratio of 41% to 12%, almost a 4 to 1 ratio. Therefore, it can be concluded that, teachers in rural areas depend more on the smartphones to access internet as compared to urban teachers.

Of those using Laptops or Computers to access internet 17 out of 483 were women participants representing 3.5% of the users and a 2% usage by women from the total participants. In rural primary schools, 2 women out of 17, representing 11.8% used either a Laptop or a Computer while 3 in urban schools representing 17.7% used the gadgets. In Secondary schools, there were more women in urban schools using a computer or laptop than in rural areas. 7 out of 17 urban female secondary teachers, representing 41.2%, used a Computer/Laptop while only 3 rural female secondary teachers used the gadgets, representing 17.7%.

Generally, female teachers in urban schools used more of Laptops or Computers to access internet services as compared to rural female teachers. Furthermore, very few women from the survey indicated the use of Laptops or computers to access internet services as compared to the male teachers.

Only 5 women out of 156 used a Tablet/iPad to access internet services, representing a 3.2% and a further 0.6% usage from the total survey participants. Of the five, 3 are from the rural schools representing 60% and 2 from the urban schools representing 40%, a ratio of 3 to 2.

Interestingly, the results show that there are much more Tablet/iPads in rural schools than in urban schools used to access internet.

Another sub-theme of 4.4 was to determine who paid for the internet connectivity/access on gadgets for teaching.

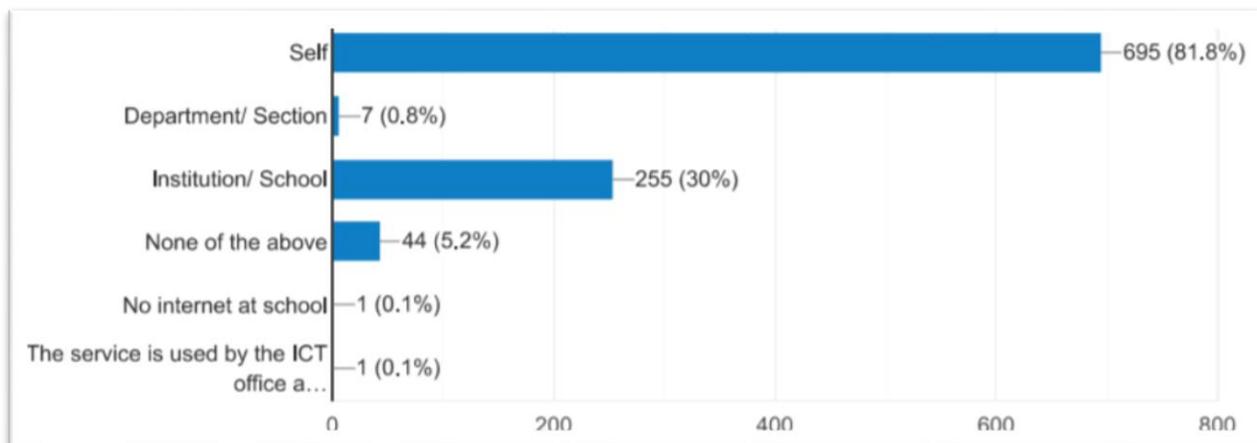


Figure 11: Payment for the internet connectivity/access

It was revealed that 695 out of 850 participants paid for the internet connectivity individually in the schools, representing 81.8% of the total respondents while 255 indicated that the institution or school paid for the internet connectivity representing only 30% of the total respondents.

A total of 132 out of 695 women indicated that they pay for internet connectivity or access by themselves, this represents 19% of all who pay for this service. Out of this number, 45 were rural primary female teachers and 28 were rural secondary female teachers. The two figures represent 10.5% of women paying for internet connectivity by themselves, while urban primary and secondary female teachers account for 47 out of 695 representing 6.8%.

With regards to men, 414 out of 695 pay for internet connectivity, this represents 60% and translates to 293 Men in rural schools who represent 42.2% of all men who pay for internet connectivity while there were 66 men in urban areas paying for internet connectivity representing 9.5%.

The analysis above therefore shows that, teachers in the rural, both male and female, are compelled to pay for internet connectivity in order to teach or access internet more than those in urban.

A total of 39 out of 255 respondents who indicated that about institutions or schools pay for internet connectivity or access were women which represents 15.3%. of these, only 10 out of 39 were from the rural schools which represents 25.6%. From urban schools, 26 women indicated

that the school or institution paid for internet connectivity which represents 66.6%. This confirms that rural teachers paid for internet connectivity more than the urban teachers.

The final sub-theme under 4.4 gathered information on challenges individual teachers and schools faced to have internet connectivity. 174 out of 850 respondents indicated that lack of internet bundles was the major challenges they had for internet connectivity representing 20.5%. 48 of these were women who represent 27.6%. Furthermore, 17 out of 48 were women from the rural schools representing 35.4% of women having challenges with lack of bundles for internet connectivity. 106 out of 850 respondents showed that unstable electricity supply and lack of internet bundles was a major challenge representing 12.5%. Out of this number, 50 teachers were from rural area schools representing 47.2% of the respondents about this challenge.

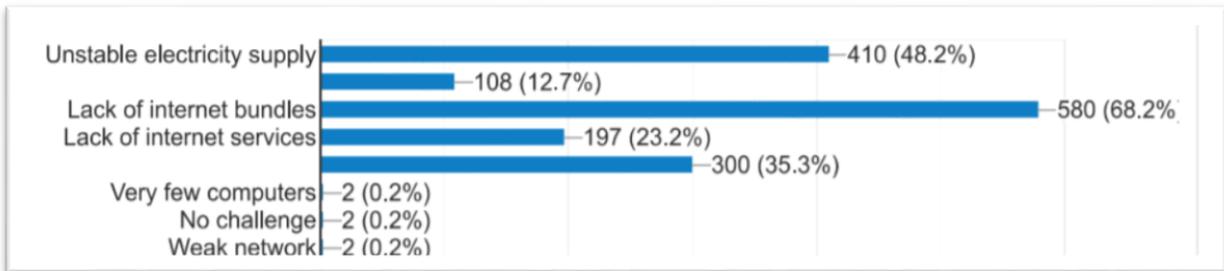


Figure 12: Challenges individual teachers and schools faced to have internet connectivity

89 out of 850 stated that unstable electricity supply, lack of internet bundles, and lack of ICT gadgets was a challenge in accessing internet connectivity. This represents 10.5% of the total respondents. 56 out of 89 teachers were from the rural schools representing 63% of teachers with these challenges. However, only 17 out of 89 were female respondents representing 19.1%. A total of 61 out of 850 mentioned unstable electricity supply as the major challenge in accessing internet connectivity, which represents 7.2% of the total respondents. 22 of these are women representing 36.1%, while 8 women are from the rural schools representing 36.4% of women among women with this challenge and 13.1% of the total respondents with this challenge.

From above information, it can be concluded that the major challenges faced by teachers to have internet connectivity are, unstable electricity supply, lack of internet bundles, and lack of ICT

gadgets among others. These challenges are also more prominent among women especially those in rural schools.

4.5. Presentation and Analysis of Results on Digital Literacy

On the integration of ICTs in their interaction with learners in the classroom, of the total 213 female respondents, 40 (18.8%) indicated that they do not use them at all. Of the 40 respondents, 36 (90%) were from rural schools. 98 male respondents indicated that they do not integrate ICTs in their interaction and out of this number 76 (84.4%) were from rural schools. The majority of respondents indicated that they incorporate ICT in their engagement with learners in the classroom. 149 respondents (17.5%) indicated that they do not use presentation software in the classroom: 52 female (31 from rural schools and 21 from peri and urban schools) and 97 males (81 from rural schools and 16 from peri and urban schools). The majority of respondents (82.4%) indicated that they use presentation software with their students. 93.4% (794) of respondents used the Internet to navigate to educational websites, research, download, send assignments and other activities. Of the total 794 number of Internet users, 607 (76.4%) were male while 187 were female making up 23.6%. Of the 607 users, 392 were from rural schools whilst 86 of the 187 females were from rural schools. 45.9% said they did not use an LMS in their teaching and the major reasons advanced were that their respective schools did not offer the facility and they were not competent in the use of ICTs. Of the 390 respondents who did not use an LMS, 276 (70.8%) were male and 114 (29.2%) were female. 231 (27.1%) of the respondents do not use educational software.

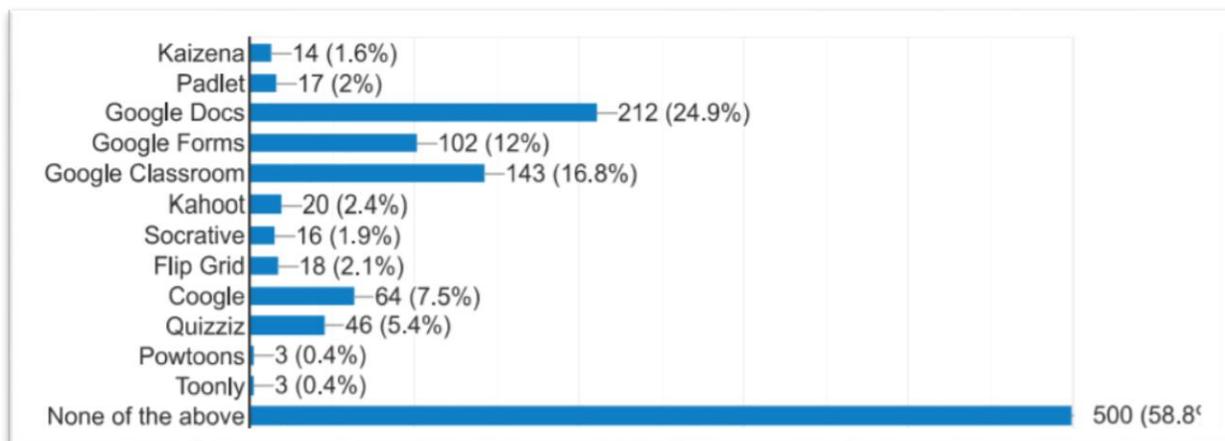


Figure 13: Use of online educational software to provide feedback/assessment

On the use of education technology tools, majority (58.8%) indicated that they did not use the tools in their teaching. Popular EdTech tools such as Kaizena, Padlet, toonly and others had very low numbers of respondents who were familiar with them which showed that teachers were not incorporating the tools in their practice. Google docs had the highest percentage (24.9%) for tools used by the teachers which was not even a third of the respondents. This pointed to the fact that while teachers were in some cases using technology in their research and other areas alluded to above, they were not only unaware of the benefits of the pedagogical use of ICT but were also unaware of the various tools which can be used as they integrated technology in their classroom.

The above findings point to an urgent need to not only show the teachers the benefits of the pedagogical use of ICT in their classroom but to train them on the actual use of the associated tools (low cost) so that they can effectively take advantage of the technology to improve and support their teaching.

4.6. Presentation and Analysis of Results on Challenges and Practical Solutions

On the analysis of results on challenges and practical solutions, of the 213 female respondents, the following applies: Peri urban and primary had 9 which makes 0.4% of the total respondents, Peri urban and secondary had 13 which makes 0.6%, rural primary had 64 representing 30%, and rural secondary had 38 which represents 17.8%.

In terms of availability of ICT equipment, 25 female respondents had 50-75% of ICT equipment working, 5 female respondents had 76-90% of ICT equipment working, 71 female respondents

had less than 50% of ICT equipment working and only 3 of the female respondents had more than 90% of ICT equipment in operation. 102 of the 213 (47.9%) females were from rural primary and secondary schools with 5 (2%) indicating no pedagogical use of ICT in the classroom of the total 637 of male respondents, 417 (67%) were from the rural schools and 76 (11.9%) indicated that they do not use any ICTs to support their students. Of the 417 males from rural schools, 289 do not have a school website. Of the total 736 (86.6%) respondents who listed the main challenge to their inability to integrate ICT in their teaching and learning, 175 (23.8%) were female with 93 from peri and urban areas and 82 from rural schools and 561 (76.2%) were male composed of 364 from rural schools and 197 from peri and urban schools. 16 (2.2%) of respondents listed lack of electricity as the reason for their lack of integration.

From above information, it can be concluded that the majority of respondents don't apply ICT in their classroom, this is despite many schools both in rural, and urban having computers which are operational. It would have been expected that with so many computers operational, teachers would have utilised them in their teaching. There is therefore a gap in pedagogical use of ICT and it is necessary to upscale the training of pedagogical use of ICT in the classroom for teachers.

4.7. Presentation and Analysis of Results on Covid 19 Literacy

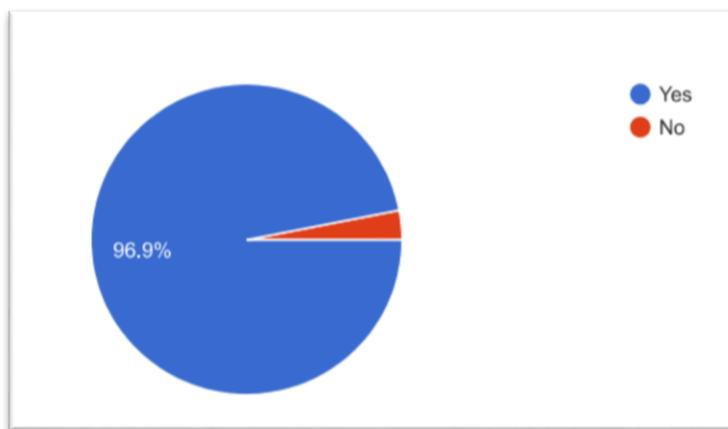


Figure 14: Respondents affected by work stoppage due to Covid-19

Most participants 96.6% (Figure 15) agreed that Covid 19 has affected their work, of which 615 were male and 209 were female. Of the 615 male respondents, 402 were in the rural schools while 213 were in the peri and urban schools. Of the 209 females, 100 were from the rural schools while 109 were from the peri and urban schools.

The reminder of respondents was made up of 3.1% (26) of the sample was composed of 4 female and 22 males. Those who responded that it had affected their work

mentioned that, they had to stop teaching in the way they were used to. Face to face contact had ceased. Most of the participants responded that teaching in the traditional way was no longer possible as both teachers and learners were sent home in order to curb the spread of Covid 19. Of the total number of respondents, 60 opted for no intervention in the current situation, this composed of 43 (5%) male and 17 (2%) females.

In line with distance learning measures put in place by the Government to ensure continued learning, most participants 58.1% responded that they would prefer to use collaborative tools (e.g. WhatsApp, Google Docs). Others (53.6%) responded that they would prefer Moodle or Google Classroom. This was followed by television 49.9% and radio with 38.6%. This tells us that WhatsApp and Goggle docs was the most preferred way of teaching that respondents had chosen

5. Recommendations

This survey revealed a number of challenges teachers and the schools were facing in order to teach using ICTs. In the face of Covid 19 where teachers and schools were expected to teach differently by teaching digitally, the research has revealed that this may not be possible without addressing some of the challenges through the given recommendations below:

- It is recommended that UNESCO-CapED upscale the training of teachers in Zambia in the use of innovative technologies as a pedagogical tool. This is because most participants, representing 96.6% agreed that Covid 19 had affected their work as they could no longer teach in the traditional way since both teachers and learners were sent home in order to avoid the spread and contacting of virus.
- All teachers have to be trained on how to prepare interactive lessons for a self-paced learner as well as on how to tutor online. Therefore, train teachers in the effective use of the available ICT infrastructure for effective teaching and learning even across all subjects.
- There is need to train and up-skill teachers on how to develop digital content and use of these free online tools, such as Kahoot, Flip Grid, Padlet, Kaizena, Answer Garden, Socratives, Quizzies, etc., which can enrich online teaching and learning experiences, but

are not known to the teachers as the most effective interactive, collaborative and assessment tools.

- There is need to train teachers on how to search for and share cost effective Open Educational Resources (OERs) with appropriate licences to use in classrooms for teaching and learning.
- It is recommended that internet bundles are provided for to the teachers, especially in the rural schools, so that they are able to access internet connectivity for teaching.
- Since cellular data network was most popular means of internet connectivity probably due to low cost of procurement and setup, there is need, at parastatal and governmental level, to up-scale investments in 4G network coverage so as to make eLearning seamless.
- The recommendation is that inventors be procured or solar power installed at the institutions so that there is steady supply of electricity for regular internet connectivity. This is because most, if not all, schools in the rural areas do not have or have unstable electricity supply making it difficult to have access to internet connectivity.
- There is need to have a deliberate policy to empower teachers, especially female rural teachers, with smartphones which can connect to networks and be used for teaching.
- There is a need to ensure that devices which were within the schools were not only operational but were being utilized in the schools by the teachers. This entails actual steps being taken to promote the utilization of ICTs in the classroom using existing infrastructure.
- There is a need to equip teachers with basic hardware and software maintenance skills to enable them to maintain existing equipment to ensure full utilization. This is because most schools do not have technical staff to maintain ICT infrastructure.

6. Conclusion

The overall aim of the study was to adapt and review the assessment tools for the rapid assessment survey on teachers' competencies on the use of ICT in teaching in Zambia, collect data from the targeted teachers based on the agreed sample and any other appropriate strategies to reach out targeted sample, analyse the data collected using the relevant and viable data analysis tools, draft the detailed or full report based on the findings, present the draft report

to UNESCO via zoom meeting (with possible participation from officials from MoGE and MoHE) to receive feedback and finalise the report based on the feedback provided during the online zoom meeting.

On the part of the sample, the survey did not reach the targeted number of teachers as planned in the initial stages. This was due mainly to the fact that it was administered online. During the administering of the survey, the country was on lockdown, with schools being closed. This meant that teachers were home, and it was not possible to administer the questionnaires physically (Ministry officials were not allowed to travel due to COVID 19). This limited the number of respondents who were able to access the survey as there are a number of possible candidates who may not have seen the survey or may have seen the survey but were unable to answer it due to a number of reasons. The total number of respondents for the survey after being circulated in various fora (as agreed in the TORs) online was 850 which was a big contrast to the expected 4200 (3% of the total number of teachers in the Zambian teaching service) respondents.

Despite the above challenges, the survey did however, reveal very important findings which could be used in the design of the intervention for the Zambian education system as it grappled with the COVID 19 pandemic and strived to bring education to pupils in their various locations. The survey showed that a number of teachers despite their location (rural, peri urban and urban) had access to smart devices but there was little to no support for the pedagogical use of ICT in the classroom: little to no technical support, no electricity in some cases, no connectivity, no technical staff to maintain the equipment among other reasons. The survey showed that even though there were ICT skills among teachers gained mainly through workshops and upgrading of their qualifications, these skills were rarely used with their learners in their respective schools or classrooms. The survey further showed that teachers were not actively being encouraged to utilize ICTs in their schools (no local policies in the integration of ICTs in the classroom) as most of them were using their mobile phones for connectivity to research and other functions. The survey also showed that teachers viewed having functional computer labs as one of the requirements which needed to be in place in order for them to successfully integrate ICTs in their practice. They did not seem to realise that integration could also be achieved with minimal

number of devices to very high impact in achieving learner outcomes depending on how well the integration was planned.

On the use of education technology for assessment and feedback to learners, more than 50% of respondents indicated that they did not use it in any way as they taught. This indicated a little knowledge on not only the benefits, but utilization of education technology for formative and summative assessment was lacking among the teachers. Additionally, over 60% of the teachers indicated that they did not have a school website where best practices, resources and support were provided for their use as they were teaching. This meant that it was up to the individual teacher to gauge what ICTs to include and when with no place to consolidate the information and also act as a delivery system to their respective learners. The skills to create digital content for use within the classroom were also underdeveloped among the teachers as most showed basic knowledge in the more advanced skills required to create and edit content.

In order to better respond to the current situation, there is a need to train teachers on the pedagogical use of ICTs in their practice, build and strengthen their skills on digital content production and support them as they implement what they will learn. This is important because in order to ensure sustainability, the skills need to be nurtured and built upon to ensure that they are not only utilized but are transferred to other teachers in various specializations.

7. Appendix 1: Questionnaire

(As attached)

Survey

1.1. Introduction:

Many teachers and teacher educators world over now find themselves working online and remotely because of the COVID19 crisis. UNESCO CAP ED, a project on “Enhancing Teacher Education for Bridging the Education Quality Gap in Africa” is committed to helping you with this different way of working.

This survey is focused on assessing the frequency, quality and diversity of ICT use in teaching and learning. With the results of the survey, we could better understand the situation of Teachers' vis-a-vis their preparation in responding to alternative teaching methods.

1.2. Objective of the survey:

The objective of this survey is assess ICT competency levels of targeted teachers in order to design appropriate capacity building interventions in line with the National Education Sector Contingency Plan for Covid 19 in Zambia

Read and answer each question carefully and ask for help if you do not understand something or are not sure how to respond. Answering this questionnaire should take about 10 minutes. All responses are anonymous and are treated in strict confidence.

Thank you very much for your collaboration.

For help call: Mr. Mabbola - 0977755416, Mrs Nzobokela - 0977413738

***Required**

2. Personal background information

1. 2.1. Sex *

Mark only one oval.

Male

Female

2. 2.2. Years of working experience as a teacher *

Mark only one oval.

- less than 5 years
- 5-10 years
- 10-20 years
- more than 20 years

3. 2.3. Location of your school and level of teaching? *

Mark only one oval.

- Rural area and primary school
- Peri-urban area and primary school
- Urban area and primary school
- Rural area and secondary
- Peri-urban area and secondary school
- Urban and secondary school

4. 2.4. What is the level of your position at your school? *

Mark only one oval.

- Class teacher – primary school
- Senior teacher – primary school
- Deputy teacher – primary school
- Head teacher – primary school
- Class teacher – secondary school
- Head of section – secondary school
- Head of Department – secondary school
- Deputy teacher – secondary school
- Head teacher – secondary school

3. Learning ICT skills

5. 3.1. I learnt ICT skills: Please tick all what applies to you. *

Tick all that apply.

- During my first training as a teacher
- When upgrading my academic qualification
- ICT workshop outside the school
- Personal efforts through workshops and short courses
- Online community or website (e.g. YouTube)
- School based CPD on ICT by a more experienced/knowledgeable teacher
- School based CPD on ICT by experts from outside the school
- None of the above

Other: _____

6. 3.2. Using Windows's File Explorer (e.g. My Computer) I can: Please all tick what applies to you. *

Tick all that apply.

- Save files in a selected folders
- Create and name new folders
- Navigate between existing folders
- Copy, delete and rename files
- Select and navigate between Drives and Directories
- Navigate into a network
- Use appropriate Help files
- Install software
- Recognise different file types
- Zip and unzip files
- Do complex searches for files
- None of the above

Other: _____

7. 3.3. Using Email I can: Please tick all what applies to you. *

Tick all that apply.

- Access emails
- Create and send emails
- Access and use Address book entries
- Add to Address book entries
- Locate Sent and Deleted messages
- Store messages in folders
- Add attachments to emails
- Add a signature to emails
- Create a mailing list
- Set up a discussion list
- None of the above

Other: _____

8. 3.4. Please indicate which of the following you use ICT for to achieve the listed objectives: Please tick all what applies to you. *

Tick all that apply.

- Create materials for assignments (e.g. handouts, tests)
- Access research on the Internet
- Communicate with others (eMail, Facebook, Instagram, Snapchat, Twitter, etc.)
- Posting content to a website (Facebook, YouTube)
- Download music / videos for use in the classroom
- Updating software / games / patches / drivers, etc.
- Take and use photos in class.
- None of the above

Other: _____

9. 3.5. Please indicate if you use a computer at school to achieve the listed activities: Please tick all what applies to you. *

Tick all that apply.

- Create materials for assignments
- Send an eMail to a class or colleagues
- Communicate with your students online
- Download an assignment
- Upload an assignment
- Access research information from the Internet
- Edit photographs
- Create posters and other visual displays in Word, Power Point or any other application
- Make a video/cartoon for use as a teaching aid
- Create a visual story using Power Point or similar
- Create an audio story or podcast
- Conduct a survey, table the results and produce graphs
- Use interactive web-sites (Mathletics, etc.)
- Make music with Garage Band or similar software for use in class
- Contacted another class/student at another school
- None of the above

4. Access to ICT equipment

10. 4.1. In your school which devices below are used for educational purposes? Please tick all what applies to you. *

Tick all that apply.

- Desktop computer without internet access
- Desktop computer with internet access
- Non-internet-connected laptop, tablet PC, netbook or mini notebook
- Internet-connected laptop, tablet PC, netbook or mini notebook
- Digital reader (portable device to read books, newspapers, etc. on screen)
- Mobile phone provided by the school
- Interactive whiteboard
- Digital camera
- Data projector
- Printer
- Photocopier
- Scanners
- DVDs and CDs
- Flash discs
- Video Games
- Radio
- Television
- None of the above

Other: _____

11. 4.2. Approximately, what proportion of this equipment (computers, interactive white boards, laptops, data projectors) is fully operational this school year? (Tick one box only) *

Mark only one oval.

- Less than 50%
- 50 to 75%
- 76 to 90%
- More than 90%

12. 4.3. How many desktop computers are installed for educational purposes for pupils to use either alone or with a teacher in the following places? Please tick what applies to you. *

Mark only one oval per row.

	0	1 - 10	11 - 20	21 - 30	31 and above
Computer laboratories	<input type="radio"/>				
Classrooms	<input type="radio"/>				
School library	<input type="radio"/>				
Other locations that are accessible to students in the school	<input type="radio"/>				

13. 4.4. By which of the following means does your school mainly have access to the Internet? *

Mark only one oval.

- Dial-Up
- Cable
- Fibre optic
- ADSL
- Cellular (MTN/Airtel/Zamtel)
- Satellite
- None of the above
- Other: _____

14. 4.5. What technical support is available at your school for the maintenance of ICT equipment? Please tick all what applies to you. *

Tick all that apply.

- Internal IT departmental staff
- Outside company
- Fellow members of staff
- Supplier of the equipment
- None of the above

Other: _____

5. Access to Internet either for learning, teaching or training purposes

15. 5.1. Does the school have access to internet services? *

Mark only one oval.

- Yes
- No

16. 5.2. If answer 5.1. is No, give reason(s) why there is no access? *

17. 5.3. What electronic device do you have for accessing internet? Please tick all what applies to you. *

Tick all that apply.

- Smart phone
- Tablet/ iPad
- Laptop/ computer
- None of the above

Other: _____

18. 5.4. Who pays for your internet connectivity / access on the gadgets you use in teaching? Please tick all what applies to you. *

Tick all that apply.

- Self
- Department/ Section
- Institution/ School
- None of the above

Other: _____

19. 5.5. What challenges do you face to have internet connectivity? Please tick all what applies to you. *

Tick all that apply.

- Unstable electricity supply
- No mobile internet providers, e.g. Airtel, MTN, Cell-Z, Vodaphone, etc.
- Lack of internet bundles
- Lack of internet services
- Lack of ICT gadgets, e.g. phones, tablets, computers, etc.

Other: _____

6. Digital literacy

20. 6.1. I use the following ICT tools for supporting my pupils: Please tick all what applies to you. *

Tick all that apply.

- Web browser
- Search engine
- Email
- YouTube
- Courseware (e.g. Moodle)
- Authoring tool (e.g. Toonly, Articulate)
- Collaborative tool (e.g. Google docs, WhatsApp)
- Project-based learning in classroom
- Online materials
- Educational software (e.g. AutoCAD)
- Digital artifacts (e.g. video, simulations, animations)
- Digital library
- Open Educational Resources (OER)
- None of the above

Other: _____

21. 6.2. I am able to use presentation application to: Please tick all what applies to you. *

Tick all that apply.

- Create a new/edit an existing slide-show for teaching
- add images, animation, transition, sound, video
- present notes and lessons
- present lesson images
- present videos and multimedia files
- present graphs and charts
- None of the above

Other: _____

22. 6.3. I am able to use the world wide web / Internet to: Please tick all what applies to you. *

Tick all that apply.

- Navigate to known educational websites
 - Do basic searches for teaching resources
 - Download and install software and plug-ins
 - Sent assignments to students
 - Create materials for assignments (e.g. handouts, tests)
 - Access research on the Internet
 - Communicate with others (eMail, Facebook, Instagram, Snapchat, Twitter, etc.)
 - Post information to a website (Facebook, YouTube)
 - Download music / videos.
 - Update software / games / patches / drivers, etc.
 - Play games online.
 - None of the above
- Other: _____

23. 6.4. I am able to use Learning Management System (e.g. Moodle) to: Please tick all what applies to you. *

Tick all that apply.

- Create e-learning courses
 - Create content from inside the LMS by importing created materials from Word documents, PowerPoint presentations, Video files, and any SCORM like Captivate, Articulate, and Camtasia.
 - Create course assessment containing Multiple Choice
 - Create course assessments using Free Text / Essay style questions
 - Create course forums and chats
 - Track progress and completion of student's individual activities
 - In-line marking and easily review and provide in-line feedback by annotating files directly within browser
 - Use an electronic Webboard for teaching
 - Use an interactive whiteboard for teaching
 - None of the above
- Other: _____

24. 6.5. I use online educational software to provide feedback and/or assess students' learning using: Please tick all what applies to you. *

Tick all that apply.

- Kaizena
- Padlet
- Google Docs
- Google Forms
- Google Classroom
- Kahoot
- Socrative
- Flip Grid
- Coogle
- Quizziz
- Powtoons
- Toonly
- None of the above

Other: _____

25. 6.6. I am able to download/upload/browse material from the school's website to: Please tick all what applies to you. *

Tick all that apply.

- Create materials for assignments in Word.
- Send emails to pupils.
- Communicate with your teacher online.
- Upload assessments using Google Classroom.
- Access research information from the Internet
- Edit photographs.
- Create posters and other visual displays in Word or Power Point.
- Make a video/cartoon.
- Create a visual story using Power Point or similar.
- Create an audio story using.
- Conduct a survey, table the results and produce graphs.
- Use interactive web-sites (Mathletics, etc.)
- Make music with Garage Band or similar software.
- Contacted another teacher at another school.
- My school doesn't have a website

Other: _____

7. Challenges and practical solutions

26. 7.1. Which of the following do you identify as challenges to the use of ICTs in teaching and learning in your school? Please tick all what applies to you. *

Tick all that apply.

- Insufficient number of computers/laptops/notebooks
- Insufficient number of internet connected computers
- Insufficient Internet bandwidth or speed
- Insufficient number of interactive whiteboards
- School computers out of date and/or needing repair
- Lack of adequate skills of teachers
- Insufficient technical support for teachers
- Insufficient pedagogical support for teachers
- Lack of adequate content/material for teaching
- Too difficult to integrate ICT use into the curriculum
- Lack of pedagogical models on how to use ICT for learning
- School time organisation (fixed lesson time, etc.)
- Most parents not in favour of the use of ICT at school
- Most teachers not in favour of the use of ICT at school
- Lack of interest of teachers
- No or unclear benefit to use ICT for teaching
- Using ICT in teaching and learning not being a goal in our school
- Lack of electricity

Other: _____

27. 7.2. What do you consider as practical solutions to the challenges identified above? Please tick all what applies to you. *

Tick all that apply.

- Support school to procure computers
- Support school to increase number of computers
- Support school to provide Internet
- Support school to increase number of internet connected computers
- Support school to increase Internet bandwidth/speed
- Support school to update and/or repair computers
- Support school to upscale teachers' ICT skills
- Support school in use of ICT as a pedagogical tool
- Motivate parents to favour the use of ICT as a pedagogical tool
- Motivate teachers to see the benefits of using ICT as a pedagogical tool
- Support school to connect to the main grid of electricity
- Support school to procure solar electric unit

Other: _____

8. COVID 19 Literacy

28. 8.1. Has COVID 19 affected your work as a teacher? *

Mark only one oval.

Yes

No

29. 8.2. If yes, explain how it has affected you as a teacher? *

30. 8.3. In line with distance learning measures put in place by the Government to ensure continued learning, which of the following strategies do you prefer to use as a teacher? Please tick all what applies to you *

Tick all that apply.

- Radio
- Television
- SMS
- Online teaching (e.g. Moodle. Google Classroom)
- CDs/DVDs/flash drives
- Using collaborative tools (e.g. WhatsApp, Google Docs)
- None of the above

Other: _____

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