Ministry of Primary and Secondary Education

Evaluation of the Rapid Teacher Training

About this document

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Contents

List of abbreviations and acronyms

COVID-19   Coronavirus disease

ICT   Information and Communication Technologies

LMS   Learning Management Systems

MoPSE   Ministry of Primary and Secondary Education

MOOC   Massive Open Online Courses

ODE   Open Development & Education

OER   Open educational resources

ODL   Open and Distance Learning

RTT   Rapid Teacher Training

UNESCO   United Nations Educational, Scientific and Cultural organisation

1. Executive summary

To mitigate the impact of COVID-19 on learning, UNESCO, in collaboration with the Ministry of Primary and Secondary Education, crafted a Rapid Teacher Training Programme (RTT). The objective of the RTT is to equip teachers with skills for online and distance teaching using high- and low-tech tools. During the implementation of the RTT, data was collected by a group of 20 RTT trainers to evaluate the programme. The RTT sessions, comprising two modules, have been reported upon by those trainers in a total of 60 reports.

The purpose of this document is to analyse this data and present the findings. The methodology for the data collection constitutes a parallel mixed-methods approach, collecting both qualitative and quantitative data.

The results indicated that low-tech options such as WhatsApp for training dissemination were widely embraced. Participants also modelled improved time management skills. They were also largely in agreement that the training should have some form of continuity. Some recommendations that were offered included separating recruitment and training processes. Embedding a fair amount of rigour in participant selection and providing the trainees with more incentives.

2. Introduction

In 2020, following the advent of Covid-19, schools were closed abruptly for the first time in post-independence Zimbabwe, thereby disrupting the school calendar. This closure lasted for an extended period and had serious implications on learner outcomes, threatening to reverse the gains realised in the post-independence period. A majority of public schools did not have the capacity to offer distance learning or online learning, for several reasons, including lack of teacher capacity.

To mitigate the impact of COVID-19 on learning, UNESCO, in collaboration with the Ministry of Primary and Secondary Education, crafted a Rapid Teacher Training Programme (RTT). The objective of the RTT is to equip teachers with skills for online and distance teaching using high- and low-tech tools. During the implementation of the RTT, data was collected by a group of 20 RTT trainers to evaluate the programme. The RTT sessions, comprising two modules, have been reported upon by those trainers in a total of 60 reports. The teacher participants were drawn from primary and secondary schools within nine provinces of Zimbabwe.

Rather than appointing an agency to analyse the data, Open Development & Education was contracted by UNESCO to capacitate a group of stakeholders in the Ministry of Primary and Secondary (MoPSE). The focus of the activity was to analyse and report on the data collected during the RTT. The purpose of this document is to analyse this data and present the findings, while a separate document reports on the capacity building programme. The methodology for the RTT data collection constitutes a parallel mixed-methods approach, collecting both qualitative and quantitative data.

We now briefly describe the RTT, before proceeding to the methodology, findings and discussion.

2.1. Objectives of the RTT

The objectives of the RTT were to provide teachers with:

- Basic theoretical understanding of digital tools both high-tech, low tech, and no tech that can be used in online and distance learning;

- In-depth knowledge to explore how digital tools can be embedded into distance and online learning in Zimbabwe taking cognizance of the Zimbabwe context, curriculum, and assessment system;

- An opportunity to collaborate with other team members using the communities of practice and district clusters to identify and introduce distance learning tools relevant for their context;

- The skills to plan their own school interventions on distance learning using high-tech, low tech, or no tech tools.

2.2. Description of the modules

Module 1, focussed on equipping teachers with skills to either start providing online lessons to their students or to enhance their online teaching practice if they were already delivering online lessons. The course prepared the teachers to use either low-tech and low-cost tools such as WhatsApp or more advanced tools such as online learning management systems (LMS) depending on the existing infrastructure available to the teachers and their students.

Module 2 introduced the teachers to the concept of digital literacy, illustrating the different definitions and theories, and highlighted the core elements that make up digital literacy. The second part of the module focused on activities that allowed teachers to develop their own interventions in their context, planning their lessons and developing their content. The module then moved on to introduce teachers to the concept of instructional design, and different approaches/methods of instructional design were outlined. Additionally, they were introduced to the practical steps of designing online lessons and delivering instruction through low tech-tools such as WhatsApp, as well as high-tech tools such as learning management systems. Further to this, tools that could be used to create online content such as Google classrooms and Moodle were further explored, including other Learning Management Systems with offline functionality. The modules were aimed at empowering teachers to design, deliver and manage effective online teaching for their students. The entire programme was structured around the topics summarised in the following table:

Module	Topic
1	Introduction to open distance and online learning for teachers in Africa
2	Planning lessons and developing content for remote learning
2b	Development of OER resources
3	Distance Learning through Radio

The data from these reports was then to be processed, cleaned, and analysed in order to develop policy briefs and action plans for teacher training and continuous professional development of teachers in Zimbabwe. The capacity building of stakeholders within MoPSE's research team also required building for future delivery of effective, evidence-based decision-making and policy planning.

2.3. Modes of training delivery

Using synchronous and asynchronous training techniques, the following modes were utilised in this Training of Trainers:

- Individual and group presentations;

- Interactive group work assignments and activities;

- Concept development and explanation of key terms/theories;

- Online individual activities, including online self-directed learning;

- Case studies, research, and investigation techniques;

- School projects and classroom interventions;

- Multimedia presentations (Webinars, videos, slides, etc.);

- Discussions and in-depth analysis;

- Mentorship and coaching.

3. Methodology

The purpose of contracting Open Development & Education was to provide capacity building to MoPSE, so that MoPSE staff could analyse the RTT data. The capacity building activities provided some research background, but also directly including engagement with data to be analysed. Ultimately, this culminated in a shared analysis of the data.

The RTT data collection used a parallel mixed methods approach, collecting both qualitative and quantitative data. The data analysed for this report includes:

- Analysis of the pre- / post-surveys;

- Analysis of the trainer reports, which in turn summarise both qualitative and quantitative data.

Given that the entire set of primary data was not available for analysis, we took both those sources into account. In other words, we partially rely on the summary reports from the facilitators to provide us with insights into how the trainees perceived the entire exercise. The reports also gave recommendations that would give direction on future training, which we draw upon in our recommendations.

The data analysis process started with an initial appraisal of the primary data; we developed a coding scheme using cycles of inductive / deductive coding. Finally, the summary reports were reviewed against the coding scheme to complement our analysis.

We note that informed consent was collected; participants signed consent forms, circulated by MoPSE.

Figure 1: Participants distribution by gender
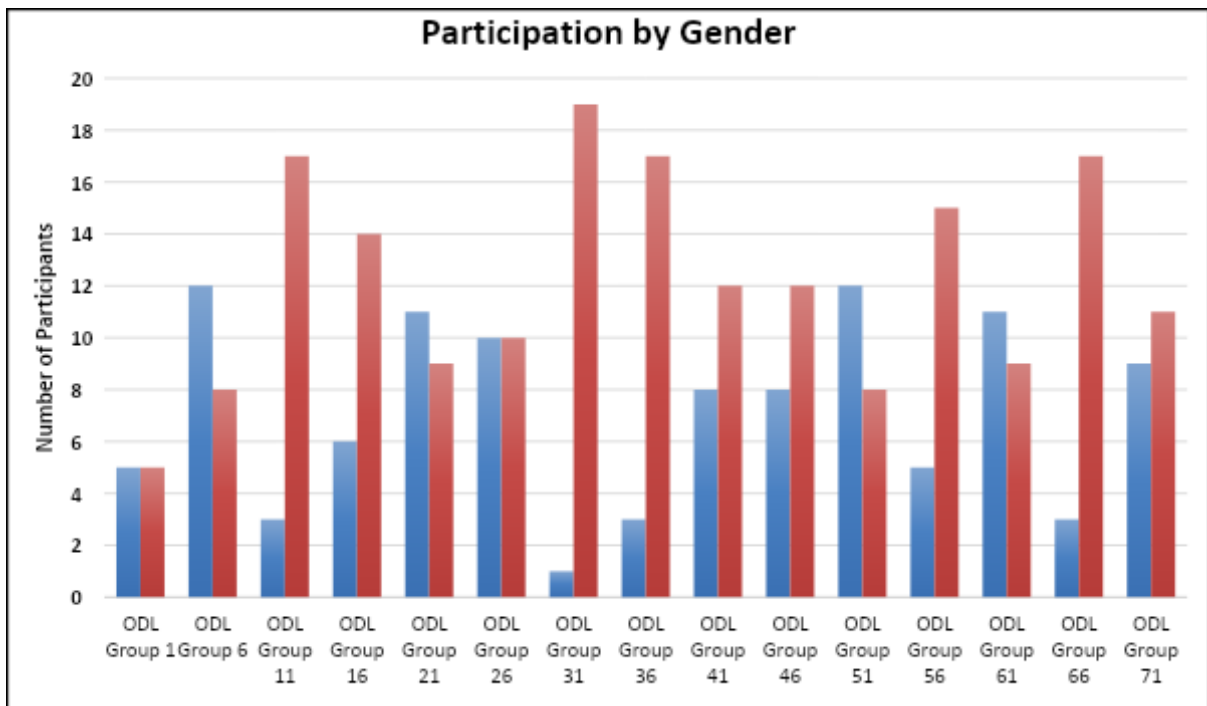
Figure 2: Cumulative participation by gender
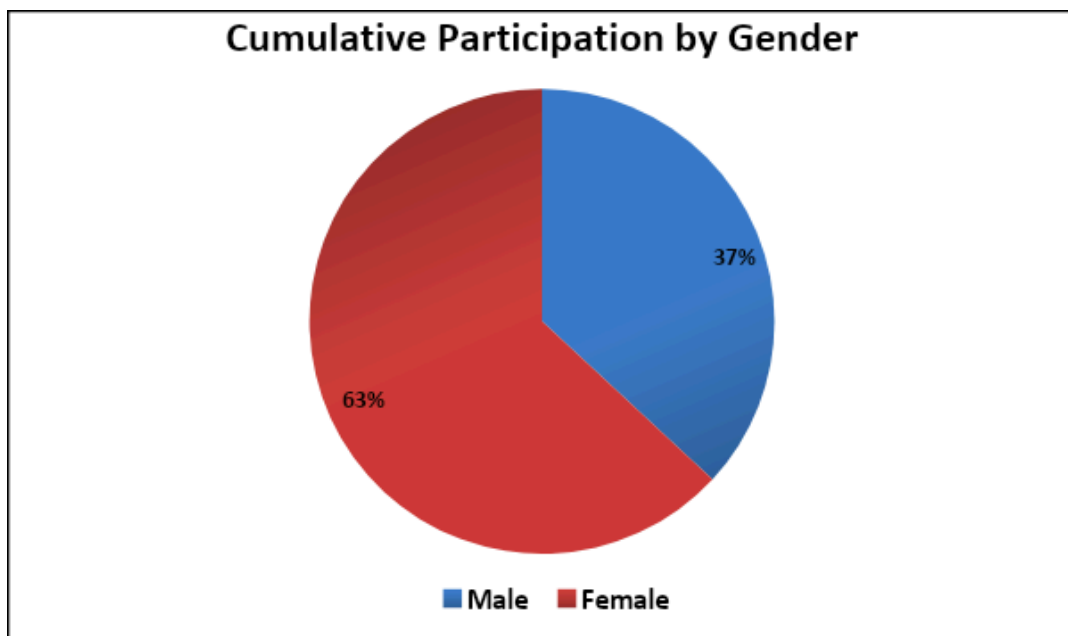
4. Findings

This section details findings from our analysis.

4.1. Gender distribution

The demographic distribution of the trainees by gender indicated that there were more female participants than males (cf. figures above).

4.2. Codes that emerged from the data analysis

The following figure illustrates the codes that were developed from the data. The main findings from our analysis and the summary reports are summarised below.

Figure 3. *Thematic codes*

4.3. Technology and benefits of technology

The most pervasive code was 'technology' and the topics within it. The codes break into two areas: the benefits of technology and non-tech solutions, i.e., the absence of technology.

Within 'benefits of technology' frequently mentioned topics were:

- "Low tech modes of teaching such as WhatsApp, Radio, and TV are more
- applicable in Zimbabwean context as compared to high-tech modes such as
- Google class[room] and Moodle."
-
- Flexibility/convenience;
- Interactive;
- Multitasking;
- Enabling distance learning;
- Problem-solving;
- Data protection (concern for providers);
- The role of social media platforms (group chats, WhatsApp web);
- Risks (concern for users);
- Specific applications (PowerPoint/slides, spreadsheets, documents);
- IT gadgets;
- Online learning platforms (Google Classroom);
- Teaching learners computer basics.

The category of 'no-tech solutions' focused mainly on print-based material, especially in remote areas with low internet connectivity.

Teachers widely embraced low-tech options such as WhatsApp. They stated increased confidence in navigating the app and formulating lesson plans. Facilitators expressed this as follows:

> *"The training was indeed an eye-opener for me, now I can use WhatsApp more meaningfully."*

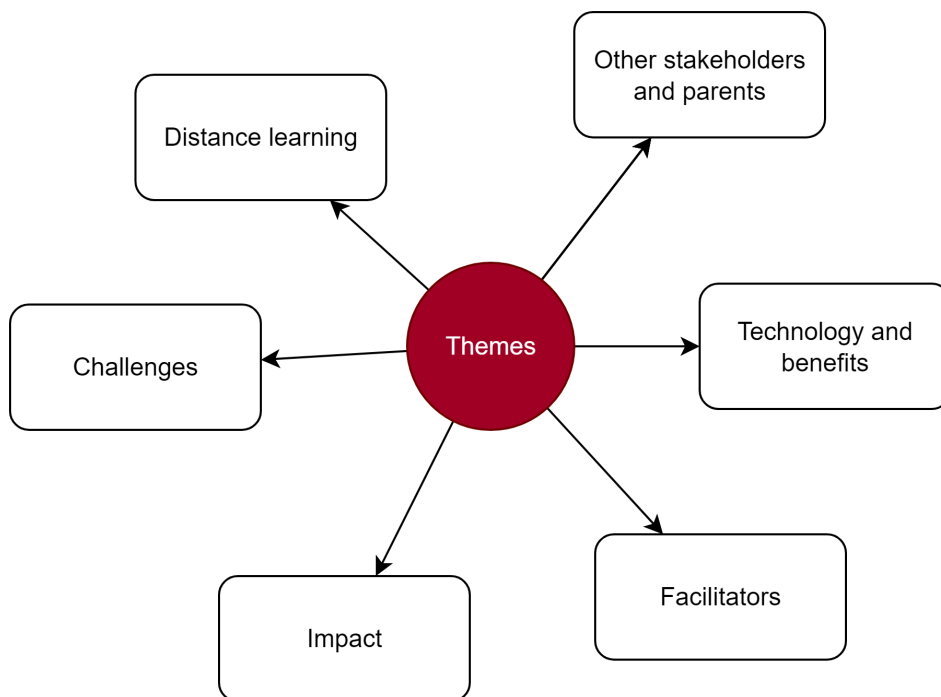> *"Low-tech modes of teaching such as WhatsApp, Radio, and TV are more applicable in [the] Zimbabwean context as compared to high-tech modes such as Google class[room] and Moodle."*

> *"Across the spectrum of participants, there was a general affinity towards the use of WhatsApp as a medium for delivering learning instruction. It was described as 'easy, simple, cheap, straightforward and accessible'."*

This is evidenced by the extracts below, which illustrate that many of the WhatsApp exchanges focused on relevant and meaningful topics. The exchanges took place during the training, and they were focused on three main tasks: how to

get learners' attention for a specific task; how to develop pictures and share video; sharing images of lesson plans.

Figure 4. WhatsApp exchanges among teacher participants.

Evidence of collaboration and knowledge sharing was also evident, thus enhancing the idea of communities of practice.

> *"ODL is good as it allows all players in education to take an active role, i.e., teachers and parents can collaborate in the learning process."*

The use of pre- and post-test is a good approach in relation to assessments. Poor or almost nil internet connectivity in the rural areas deepens the digital divide:

> *"This cannot be applied fully in rural schools because most schools in rural areas especially day schools do not have computers and Wi-Fi, the few*

Learners who afford to buy cell phones may not afford bundles to go on the internet."

Wider consultations with the intended recipients should be carried out before rolling out training activities:

"Such lessons need full-time participation off work. There is a lot to attend to really. A class of 55 is waiting for me tomorrow and after. My attention, time, and commitment are now divided."

Participants were largely in agreement on the importance of continuity in order to sustain the skills learnt.

"Please continue to help me since I am a beginner on ICT."

Improved time management skills were evident — balancing work obligations as well as the training. This skill would directly translate to efficient planning and delivery of lessons.

4.4. Facilitators

In the theme of 'facilitators', the following topics arose frequently:

- Role of Fs in encouraging participation/Creating accounts for learners/scheming;
- Prior training;
- Make the process easier;
- Plan the training / Didactic teaching methodologies;
- Guide and control the training (setting ground rules).

The facilitators provided further insights on the training, as seen from the excerpts below. Facilitators appreciated the ideas of accountability partners:

*"The use of **accountability partners** helped in giving the participants the motivation to finish the programme. Such collaboration created a sense of community and enhanced participation during and after the lessons."*

Facilitators recognised that digital literacy levels of the participants varied:

*"Over the course of the training, it also became evident that the **digital literacy** levels of the participants varied, however a majority of them would benefit from further training."*

Facilitators noted the need for monitoring and follow-up, with clear commitments in place:

*"The groups require more **intensive monitoring and following up** with strict ground-rules on appropriateness of times to communicate."*

Typically, connectivity and other technical difficulties limit programme delivery:

> *"The inadequacy of connectivity often surfaced during programme delivery. Some previous versions of browsers rejected links to MOOCs identifying them as unsafe sites. Frequently, facilitators suggested the use of other browsers. Limitations were noted in* **participants' devices** *ranging from poor battery, low memory, limited RA and slow processing, small screens and display quality."*

Greater flexibility may increase participation:

> *"These first trainings also coincided with the second week of schools opening, affecting real-time participation, with some teachers joining in well into the lessons. Responses from teachers also trickled in sporadically, which indicated that the programme should embed a lot more flexibility."*

Finally, facilitators noted that WhatsApp was a useful tool, liked by participants for delivering learning, as illustrated in this extract:

> *"Across the spectrum of participants, there was a general affinity towards the use of WhatsApp as a medium for delivering learning instruction. It was described as 'easy, simple, cheap, straightforward and accessible."*

4.5. Distance learning

Under the theme of 'distance learning', the following topics were identified:

- No limits [enabled by technology];
- Remote learning;
- Online learning.

The following observations related to online learning were made by the participants.

Participants acknowledged the presence and significance of online learning.

> *"There is no significant difference between online learning and face to face learning."*

> *"Online learning is compatible with modern day students as they use ICT's at home and in real life."*

> *"Online teaching and learning removes you from the rigours of doing everything for students, it gives students autonomy"*

> *"There is a lot to learn in the use of WhatsApp as an instructional tool."*

"This online course has played a major role in exposing us to the changing world of learning."

Participants recognized the role that technology plays in bridging barriers of distance, as is seen from the comment below:

"As a teacher I am now able to teach my learners despite distance barrier considering this COVID pandemic schooling will continue."

4.6. Stakeholder/Parental support

The main topics within stakeholder and parental support centred on data, as well as the use of devices, such as smartphones or laptops.

The necessity of stakeholder and parental engagement was emphasized through comments like the ones below.

"ODL is good as it allows all players in education to take an active role, i.e. teachers and parents can collaborate in the learning process."

"I'm going to incorporate parents and learners and ensure that they are ` actively involved in Social Media."

"Parents have to be encouraged to buy ICT gadgets for their children."

4.7. Challenges

The participants faced a series of challenges to access and participate in the training sessions. These were mentioned in the reports and will be presented in order of frequency.

4.7.1. Connectivity

Unstable access to internet is a serious threat to the development of the synchronous training sessions. Issues with connectivity impacted teachers' participation, access to assessments, to learning materials, and to be engaged in group work.

"Network challenges affected the active engagement of other participants during quizzes and breakaway group discussions"

"My network is so poor, I am failing to open these videos"

"Group work continues to be a challenge for participants outside towns due to poor connectivity."

Connectivity was not only an issue for participants, but also for facilitators.

> *"Often a lot of let downs to programme delivery stemmed from dips in speed of the internet and sometimes it switching off altogether. As facilitators, we often bought separate data bundles from different internet service providers to guarantee continued connectivity."*

> *"Trainers should be equipped with more data to be responsive real time, with the 25gigabite Private Wi-Fi bundle being suggested as a cut off of data was experienced and facilitators struggled to source data which could upload documents and load messages fast as low end bundles such as daily bundles are not meant for speed intensive use of the internet."*

The choice of network was repeated frequently as a source of challenges to connect to the internet.

> *"Participants should have a choice of service provider for data as in some places Econet was not very strong and participants would fail to join the synchronous lessons and at times failed to complete tasks on time"*

These comments suggest that, for future trainings, there should be an effort to prioritize asynchronous opportunities for learning over synchronous.

> *"I noted that not all participants would be able to join the synchronous lessons due to network but they would catch up after the session when the network was better."*

4.7.2. Workload

Teachers' full-time job responsibility, in addition to the stress and care duties associated with the pandemic, left participants with limited time to engage in the training. Despite this, and other challenges, teachers made the effort to catch up with the lessons at night or during free days. Although their commitment is admirable and required for the success of the implementation, this might not be sustainable over time and might limit the impact of the training programme.

> *"Some participants would fail to catch up as they would have multiple tasks that were not aligned to the program."*

> *"Participants had their fair share of challenges including taking care of COVID 19 related issues at individual and family levels, juggling trainings whilst they were on their teaching duty, electricity power blackouts, network challenges and receiving other assignments from superiors "*

Additionally, facilitators consider that the contents are too extensive to address in the short time allocated, especially when considering participants' low levels of proficiency with technology.

"The learning materials were more than they could do in a short period of time."

Furthermore, facilitators expressed the difficulties associated with having to be available for participants 24/7 while also managing administrative work.

"The administrative work of creating and managing groups should be separated from the trainer's duties because this took a lot of the trainer's time"

"The program is too intense and fast paced especially for the trainer. It doesn't give them enough time to complete tasks and continue with one on one training."

Facilitators recommend delivering the training sessions during holidays when teachers have fewer responsibilities.

"Participants who trained during school holidays (when teachers have less work commitments) participated more during synchronous lessons than those who trained when schools were open. If teachers are trained when schools are open, they should be exempted from other commitments such as attending other workshops, meetings and administrative duties such as banking"

4.7.3. Devices

The reports show that most participants were struggling with the devices they had. Among the challenges are low battery, memory, and small screen. This has affected their opportunity to use the learning material.

"Because the module content is packed with a lot of downloads, there is need to recommend a standard size of storage in the participants' gadgets or to equip them with ways on backing up data or use secondary storage devices according to the structured downloads in the tool kit. Some of the participants could not download some files due to lack of storage in the gadgets."

Facilitators also expressed the need for devices that could perform well for the training.

"facilitators need support in accessing tools for the training such as laptops, smart phones and tablets that have the capacity to take them through the training with no challenges"

Facilitators thought that participants need to be provided with the adequate tools:

"It is important that Participants be provided with the tools necessary for the training, such as smartphones or tablets. Mobile device specifications such as memory capacity should be provided in advance, to avoid device challenges especially associated with downloading and uploading videos."

4.7.4. Motivation, lack of incentives

Motivation was an important theme in the data. For example, one teacher commented:

> *"There is still a need to find means for teachers to find their own motivation, and a lot of that hinges on them being capacitated to conduct the training with the needed infrastructure, such as better performance mobile devices and access to steady and consistent access to the Internet."*

As facilitators state, *"the training required a lot of dedication from both the trainers and the trainees"*. So far, the programme does not contemplate a reward system other than the certificate.

> *"At the end of the quiz, a winner is named with no tangible rewards or incentives."*

Therefore, it is suggested in the reports to provide feedback and monetary incentives to increase motivation, especially considering teachers' limited time availability.

> *"Feedback should always be given to motivate learners and always appraise them"*

A number of teachers were of the view that more incentives should be provided for the participants. They expressed this as follows:

> *"Some reward system beyond certificates is needed considering the tough economic times, where participants sacrifice beyond working hours to ensure the success of this programme and struggle to source data which could upload documents and load messages fast as low-end bundles such as daily bundles are not meant for speed intensive use of the internet. The roll-out of the program was very time and technology demanding."*

Related to this is the removal of obstacles. Participants expressed the need to schedule the training for days other than school days. The sentiment was raised as below:

> *"Participants who were trained during school holidays (when teachers have less work commitments) participated more during synchronous lessons than those who trained when schools were open. If teachers are trained when schools are open, they should be exempted from other commitments such as attending other workshops, meetings and administrative duties such as banking."*

4.7.5. Teachers' previous technology skills

Most trainees were unfamiliar with online teaching and lesson design, and had limited knowledge and abilities in digital literacy and learning platforms, according to pre-course comments.

> *"Before training some participants had little knowledge on creating a WhatsApp groups, using the WhatsApp web, sharing documents among themselves using low-tech tools"*

This presented a challenge for the implementation of the programme on a brief period of time. According to the reports, the design of the training sessions might not have contemplated the added time that this would represent for teachers, if the baseline was this low.

> *"ICT basic skills was a hindrance on some trainees and resulted in them taking the whole week to complete the pre-workshop activities"*

> *"Learning how to use digital devices for learning can be daunting especially for those teachers starting from scratch. Ensuring some basic digital literacy level can improve or boost overall learning experience during such trainings."*

As one of the reports proposes, *"there is need to scale-down the pre-lesson activities for day one"* and continues to say *"it has been evident that the pre-tasks are overwhelming"* which has affected teachers ability to complete activities asynchronously and synchronously.

4.7.6. Electricity

Power outages impacted teachers' attendance to the sessions. Devices' low battery life was also a hindrance to their training. Finally, weather-related issues ended up modifying the scheduled delivery.

> *"Participant stationing was affected by the winter load-shedding that affected availability of electricity, this made it difficult to have full participation or have all participants ready with pre-scheduled tasks on time."*

4.8. Impact of the programme

The rapid teacher training programme yielded multiple positive effects on teachers. Following a coding process of the reports, the most frequently repeated evidence of success of the intervention are:

1. Engagement
2. Collaboration and peer support
3. Digital skills

4. Replication of knowledge.

Figure 5. Impact of the Rapid Teacher Training Programme.
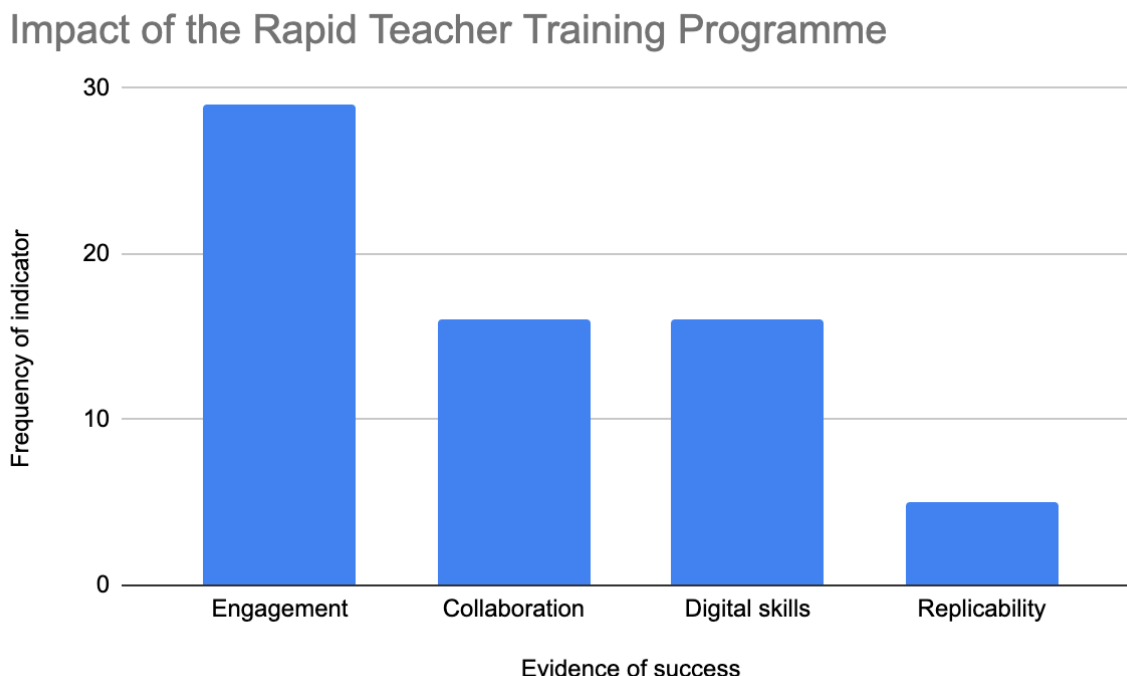
4.8.1. Engagement

Teachers in most cases attended and participated actively in the sessions. Facilitators also acknowledge teachers' commitment despite the multiple challenges they faced to access the training. These high levels of commitment, motivation, and participation could be related to the methodology chose and to the responsiveness of the training design to the challenges of the context.

> *"During the course of the week learners participated very well and demonstrated a great sense of self-motivation, despite obstacles such as time management, dedication to other tasks and responsibilities and other commitments"*

> *"It is very positive to note that participants wanted to learn. All those who had good internet services were able to do their assignments and finish in time. Those with network challenges could come in during the night when the network would be stable and do all their work. That alone shows that participants had self-motivation and were determined to learn."*

Beyond teachers' engagement, the reports also inform about the impact of using technology on students.

> *"This showed that ICT in education improves engagement and knowledge retention: When ICT is integrated into lessons, students become more engaged in their work."*

4.8.2. Collaboration and peer support

The programme allowed and fostered collaboration among participants. WhatsApp, in particular, was reported to be a suitable space to create bridges between educators and wider 'communities of practice'. Facilitators consciously built a 'culture of knowledge sharing' that could have modelled collaboration for participants, instead of promoting competition.

> *"Participants showed active participation and engagement, actively supported each other, sharing knowledge, and gradually being able to form the communities of practice both in the main lesson WhatsApp group and in the breakaway groups when they did their group work."*

This peer support also served to counteract the challenges faced by the participants in terms of connectivity, electricity, and devices.

> *"Participants cover each other's back in cases of network problems and other technicalities."*

4.8.3. Digital skills

Despite teachers' low previous digital skills, unstable internet, challenges with electricity or electronic devices, and demanding workload, facilitators report increased levels of digital skills due to the training. Some institutions report an improvement of over 25% between the pre- and post-training test. This has allowed most participants to translate the lessons from the training to their own classrooms.

> *"The lessons which these teachers have conducted with their own school classes is testimony that they have for sure acquired enough competences for them to run remote learning. Their ICT skills have also improved, hence this is clear evidence that they now possess the most sought after skills in our teachers, that is, to effectively conduct open, distance and online learning."*

The increased digital skills level has also positively impacted teachers' confidence in delivering lessons online; especially when using WhatsApp.

> *"The teachers' level of confidence in using low cost tech tools to deliver lessons and produce content was highly boosted by the content they got from these courses"*

4.8.4. Replication of knowledge

The design of the sessions allowed for an easy transition from training to practice in the classroom. During and after the training, teachers were able to create their own WhatsApp groups, upload content to learning platforms, and even share the information with other educators.

> *"Most participants have already started implementing the knowledge and skills that they acquired during training thus showing the practicality and usefulness of the programme"*

Teachers in rural areas were particularly interested and active during the sessions. Engagement and replicability of the contents can be evidenced in their prompt application of new knowledge.

> *"While enthusiasm to participate in the programme prevailed across all the provinces, the focus of the workshop in rural and marginalised schools was particularly welcome, especially in the most disadvantaged communities. Besides the excitement that came with participation in training, teachers were eager to implement the online teaching models in their schools, with many sharing their experiences with other teachers in their districts and even requesting permission to train other teachers in their schools and districts as part of knowledge-sharing or local professional development endeavours."*

5. Discussion and recommendations

The goal of the RTT was to boost the skills and competencies of the teachers in the use of low-tech and high-tech tools in their instructional practice. The findings indicate that participants were eager to learn how to utilise technology tools to engage with their learners. They demonstrated immense initiative and creativity, especially through low-tech tools like WhatsApp, by sharing documents with their peers; creating learner groups and attaching links and documents within the chats. Before the training, many of the trainees had little knowledge on how to engage meaningfully with low-tech tools like WhatsApp in their instructional practice.

These insights also suggested that low-tech tools, like WhatsApp, were largely the preferred mode of delivery of content to learners. These findings mirror and complement insights from a study[1] conducted in South Africa by Grassroots, a civic and technology organisation supported by the MIT governance lab. The organisation launched a leadership development course over the WhatsApp messaging platform. The distance learning course was designed to build the capacity of organisers for sustained community activism. Initial results suggested that the WhatsApp course was quite successful in connecting grassroots organisers in new ways that encouraged meaningful learning and information exchange.

The use of accountability partners worked well in keeping the group of participants on course and building collaboration. Digital literacy skills varied among the trainees, but a majority of them felt that they needed further training. Refresher courses would be essential in further cementing and extending the lessons learnt. It is necessary to continually foster communities of practice and motivate teachers to communicate with their peers, as it improves pedagogical practice and supports their wellbeing.

Facilitators also acknowledged that the training material was clearly and explicitly scripted, hence aiding them significantly in carrying out the sessions with great efficiency.

The overall aim of the Rapid Teacher Training exercise was to equip teachers with skills for online and distance teaching using both high- and low-tech tools. Given the above insights, it seems abundantly clear that low-tech tools are much more productive, due to availability of devices as well as skills. **We recommend that the use of messenger applications should be further promoted and explored.** Moreover, the question of teacher motivation and incentives need to be investigated. **We recommend determining avenues for both monetary and non-monetary incentives.**

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[1]

https://mitgovlab.org/research/a-novel-approach-to-civic-pedagogy-training-grassroots-organizers-WhatsApp/

6. Annex

6.1. Annex 1: Teaching / training materials used

Day 1: Learning Theories

Time	Details	Activity Type	Duration (mins)	Facilitator
1500hrs-1505hrs	Welcome and sharing of learning objectives	Interactive	5 mins	Abie
1505hrs-1510hrs	Video on learning and instructional theory: https://www.youtube.com/watch?v=0YOqqXjynd0	Audiovisual	5 mins	Busie
1510hrs-1520hrs	Interactive quiz competition	Interactive/ competitive	10 mins	Abie
1520hrs-1540hrs	Participants video clip presentations	Audiovisual/ participatory	20 mins	Busie
1540hrs-1550hrs	Audio feedback on Pre-Lesson Activity Part 2	Audio/ Participatory Interactive	10 mins	Abie
1550hrs-1555hrs	Learning theories explanation and participants action commitment	Lecture/ Interactive	5 mins	Busie
1555hrs-1600hrs	Administer the post-lesson test	Test	5 mins	Abie
1600hrs	Post pre-lesson activities for the next lesson	Assignment	-	Busie

Day 2: Digital Literacy

Time	Details	Activity Type	Duration (mins)	Facilitator
1500hrs-1505hrs	Introduction to digital literacy	Interactive	5 mins	Busie
1505hrs-1510hrs	Definition of digital literacy and its main elements	Lecturer	5 mins	Abie
1510hrs-1515hrs	Why is digital literacy important for students to master?	Interactive	5 mins	Busie
1515hrs-1525hrs	Discussion based on graphic *8EssentialElements.png*	Interactive	10 mins	Abie
1525hrs-1530hrs	Video on *Digital literacy and why it matters* https://youtu.be/p2k3C-iB88w	Audio visual	5 mins	Busie
1530hrs-1535hrs	Discussion on strategies for teaching digital literacy	Interactive	5 mins	Abie
1535hrs-1540hrs	Challenges of teaching digital literacy	Interactive	5 mins	Busie
1540hrs-1545hrs	Solutions to challenges of teaching digital literacy	Interactive	5 mins	Abie
1545hrs-1550hrs	Discussion on ways to teach online research to students	Interactive	5 mins	Busie

Time	Details	Activity Type	Duration (mins)	Facilitator
1550hrs-1555hrs	Explanation on optimal usage of basic technology for digital literacy	Lecture	5 mins	Abie
1555hrs-1600hrs	Post-lesson test	Test	5 mins	Busie
1600hrs	Post pre-lesson activities for the next lesson	Assignment	-	Abie

Day 3: Instructional Design

Time	Details	Activity Type	Duration (mins)	Facilitator
1500hrs-1505hrs	Introduction of topic, learning objectives, feedback from pre-lesson activities	Interactive	5 mins	Abie
1505hrs-1515hrs	Definition of key terms: Instructional Design, subject. Discussion on the delivery medium implications to instructional design	Lecture Interactive	10 mins	Busie
1515hrs-1535hrs	Pre-lesson video interaction and sharing	Audio Visual Interactive	20 mins	Abie
1535hrs-1545hrs	Anagram competition on instructional design terminology	Interactive Competitive	10 mins	Busie
1545hrs-1555hrs	Break-away group discussion on instructional design model preferences and de-brief in plenary	Break-away groups Interactive	10 mins	Abie
1555hrs-1600hrs	Post-lesson test	Test	5 mins	Busie
1600hrs-1605hrs	How instructional design concepts will be applied	Interactive	5 mins	Abie
1605hrs	Post pre-lesson activities for the next lesson	Assignment		Busie

Day 4: Online Lesson Planning

Time	Details	Activity Type	Duration (mins)	Facilitator
1500hrs-1505hrs	Welcome participants attendance check	Interactive	5 mins	Busie
1505hrs-1510hrs	Review pre-lesson activities and share learning outcomes	Interactive	5 mins	Abie
1510hrs-1515hrs	5 important elements of an effective online lesson participant views	Interactive	5 mins	Busie
1515hrs-1520hrs	The most important elements of an online lesson with explanations (refer to PDF: Planning effective online lessons document	Lecture	5 mins	Abie
1520hrs-1535hrs	Recording a micro-training session sample in break-away groups	Break-away Practical	15 mins	Busie and Abie
1535hrs-1545hrs	Group feedback on micro-training session samples	Audio Visual	10	Busie
1545hrs-1550hrs	Sample synchronous lesson plan,	Lecture	5	Abie

Time	Details	Activity Type	Duration (mins)	Facilitator
1550hrs-1555hrs	Action to be taken as a result of the lesson	Interactive	5	Busie
1555hrs-1600hrs	Post-lesson test	Test	5	Abie
1600hrs	Post pre-lesson activities for the next lesson	Assignment	-	Busie

Day 5: Content Creation and Action Planning

Time	Details	Activity Type	Duration (mins)	Facilitator
	Content Creation			
1500hrs-1502hrs	Topic introduction, definition of digital content creation	Interactive	2 mins	Abie
1502hrs-1505hrs	Discussion from the 14-minute video	Interactive	3 mins	Busie
1505hrs-1515hrs	Content creation tools That have been used before	Interactive	10 mins	Abie
1515hrs-1525hrs	Discussion on the 2-minute videos	Interactive	10 mins	Busie
1525hrs-1530hrs	Topic conclusion	Lecture	5 mins	Abie
1530hrs-1535hrs	Post-lesson test	Test	5 mins	Busie
	Action Planning			
1535hrs-1537hrs	Introduction of topic and learning objectives,	Lecture	2 mins	Abie
1537hrs-1540hrs	Discussion on 3 minute segment	Lecture	3 mins	Busie
1540hrs-1555hrs	Mock micro-lessons in break-away groups	Practical Interactive	15 mins	Abie and Busie
1550hrs-1605hrs	Share planning resources, Action plan and participants' project	Lecture	10 mins	Abie
1605hrs-1615hrs	Post-workshop test and workshop evaluation survey Closing remarks	Test Survey Presentation	10 min	Busie

6.2. Annex 2: Lesson Plans

LESSON PLAN

Topic: Transpiration in plants

Date: 02 June 2021.   Duration: 30minutes

Resources: Phone camera, Phone voice recorder.

Time	Content and Objectives	Teacher Pupil Activities
3minutes	**ENGAGE** Introducing Topic Identifying what pupils already know.	Asking students questions Students answering
7 minutes	**EXPLORE** Discussing: Definition,functions and factors affecting rate of tr anspiration	Discussing with pupils Questions and answers
5 minutes	**EXPLAIN** Students interact and shar e what they understand	Students contribute Teacher provides guidance
10 minutes	**ELABORATE** Notes and Visuals Students read and comment	Teacher provide notes Students read the notes and m ake comments /ask questions
5 minutes	**EVALUATION** Checking understanding Assessment Post lesson work	Short quiz for students Students given PDF typical exa m questions to go and work on after the lesson.

6.3. Annex 3: Thematic codes

The following codes were generated from the primary data collected and the summary reports.

1. Facilitators

   - Role of Fs in encouraging participation/Creating accounts for learners/scheming

   - Prior training

   - Make the process easier

   - Plan the training/ Didactic teaching methodologies/

   - Guide and control the training

      i. setting ground rules

2. Technology

   - Benefits of technology: flexibility/convenience

   - Interactive

   - Multitasking

   - Enabling distance learning

   - Problem-solving

   - Data protection (concern for providers)

   - The role of social media platforms

      i. Group chats

      ii. Whatsapp Web

   - Risks (concern for users)

   - Specific applications

      i. PowerPoint/slides

      ii. Spreadsheets

      iii. documents

   j. IT gadgets

    k.   Online learning platforms (Google Classroom)

    l. Teaching learners computer basics

3. Distance learning

   - No limits [enabled by technology]

   - Remote learning

   - Online learning

4. No-tech solutions

   a. Print-based material, especial in remote areas with low internet connectivity

5. Stakeholder/Parental support

   a. Data/Smartphones