
Innovations in blended/online learning

**on the Secondary Teachers' English
Language Improvement Rwanda (STELIR)
programme**

Research Report

November 2024

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Equity and Inclusion – Women Teachers

Equity and Inclusion – Teachers with disabilities

RQ2: What is the perceived quality and value of the STELIR blended CPD experience, including whether all participants are treated equally?

RQ3: In a culture where face-to-face interaction is preferred, including in education, what effect does the introduction of remote forms of learning have on engagement in CPD programmes?

RQ4: What proportion of STELIR teachers have limited ICT skills, and to what degree?

RQ5: How effective are measures adopted to support teachers with limited ICT skills in terms of increased participation and engagement levels in online learning?

Acronyms

BC	British Council
CPD	Continuous Professional Development
CoP	Community of Practice
CUR	Catholic University of Rwanda
eTMs	eTeacher Moderators
EAC	East African Community
EP	English Programmes
ETTs	English Teacher Trainers
ICT	Information and Communication Technology
LMICs	Low- and middle-income countries
LST	Lower Secondary Teacher
NILE	Norwich Institute for Language Education
PLC	Professional Learning Community
REB	Rwanda Education Board
SBMs	School Based Mentors
SEND	Special Educational Needs and Disabilities
SMD	Social Model of Disability
SSA	Sub-Saharan Africa
STELIR	Secondary Teachers' English Language Improvement Rwanda
ToC	Theory of Change
TWDs	Teachers with disabilities
URCE	University of Rwanda College of Education
VITs	Visually Impaired Teachers
WTs	Women teachers

Executive Summary

After several significant shifts in language policy in Rwanda, since 2019 Rwanda uses English as the Medium of Instruction throughout the education system. This transition has been challenging for both teachers and students and several studies suggest the need for English language training for teachers.

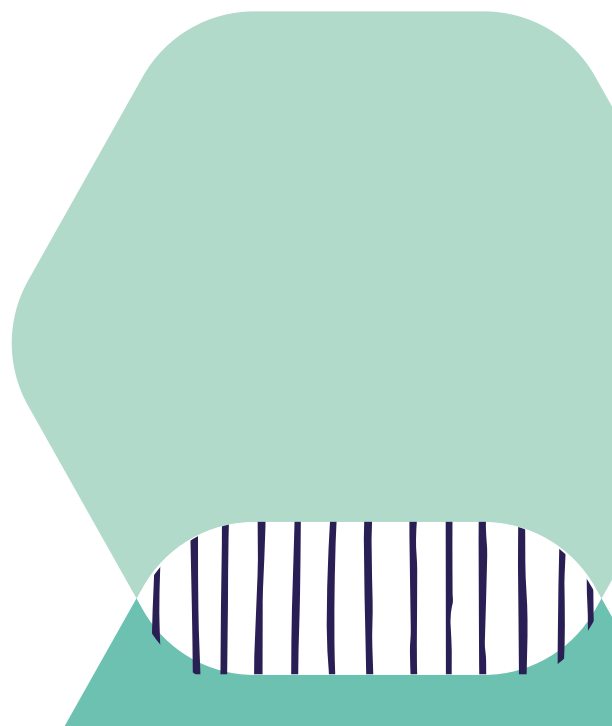
The STELIR course

In 2022, the British Council launched the Secondary Teachers' English Language Improvement Rwanda (STELIR) project, a three-year initiative aiming to support in-service and pre-service Lower Secondary Teachers (LSTs) to develop their English language proficiency. STELIR is delivered in collaboration with Mastercard Foundation and implemented by the British Council in cooperation with the Rwanda Basic Education Board. STELIR is a blended learning course consisting of three stages: stage one includes intensive in-person English language lessons delivered over one or two weeks (depending on teachers' language level); stage two includes asynchronous online learning (self-study) with weekly synchronous live sessions over 20 weeks (on Webex); and stage 3 includes in-person CPD held in teachers' schools and led by School-Based Mentors (SBMs) for in-service teachers, and a peer-led professional development skills course for pre-service teachers. Prior to joining STELIR, teachers take the British Council's Aptis English language proficiency test to

understand their level of English so that the course can be offered at the appropriate level. The test results are measured against the Common European Framework of Reference for languages (CEFR), ranging from Basic User (A1/A2), Independent User (B1/B2), and Proficient User (C1/C2). The entire learning cycle takes place over a year for each language level. LSTs who require additional English improvement are invited to repeat the learning cycle once or twice until they achieve B1 level.

Aim of the study

In 2024, the British Council commissioned Ecctis to conduct research into STELIR's online stage, exploring its perceived effectiveness and quality of implementation as well as its equity and inclusivity in relation to women teachers and those with disabilities, particularly visually impaired teachers.



Methodology

The study employed a two-stage methodological approach: a literature review exploring evidence of blended or online teacher training and Continuous Professional Development (CPD) internationally and locally in the context of Sub-Saharan Africa (SSA) and Rwanda, and a process evaluation through several stakeholder engagement activities such as observations of online sessions, surveys, interviews, and focus groups with in-service and pre-service teachers and eTeacher/Moderators (eTMs) delivering online sessions.

Findings of the study

Effectiveness and quality of implementation

Overall, this study found evidence of good practice around the effectiveness and quality of implementation, impact, equity and inclusivity of STELIR's online stage. In terms of the perceived effectiveness and quality of implementation, both in-service and pre-service teachers expressed positive views of the content, structure, teaching methodologies and the role of eTMs and international e-trainers. In relation to preferences of training

Literature Review

The literature review explored **evidence of blended or online teacher training** and CPD internationally and locally in the context of SSA and Rwanda.

Process Evaluation

The process evaluation utilised several **stakeholder engagement activities**: observation of online sessions, surveys, interviews, and focus groups with in-service teachers and pre-service teachers and eTeacher/Moderators

modality, most in-service and pre-service teachers reported a preference for a blended learning modality (a combination of face-to-face and online sessions). Regarding the perceived impact of the training, stakeholders highlighted that as a result of their participation in STELIR's online stage, teachers developed their English language proficiency their confidence, their digital literacy, as well as their social and time management skills. However, both in-service and pre-service teachers highlighted that they faced several challenges in attending and participating in the training. Such challenges included: internet connectivity issues, limited data bundles, the timing of the online sessions (which often clashed with teachers' high workload and responsibilities), challenges in using the tablets, climate-related disruptions, issues with the level of content of the course (for some teachers), and the lack of continuous support after the completion of the online sessions.

To overcome these challenges, teachers and eTMs highlighted the need to further support teachers' learning and development, especially around English language proficiency and digital skills, and to promote teachers' interaction and longer-term collaborative learning. Participants suggested several ways to increase accessibility and participation in online learning including: protecting in-service teachers' time during their school day to participate in online training and CPD, securing the necessary resources and infrastructure such as data bundles and internet connectivity, providing incentives (such as certificates or monetary compensation), promoting further opportunities for international collaboration, rearranging the training groups based on teachers' subject expertise, and providing post-assessment feedback to support teachers' continuous learning and development.

Perceived effectiveness and quality

- **Positive views** of the content, structure, teaching methodologies and the role of eTMs and international e-trainers.
- **Preference for a blended learning** modality (a combination of face-to-face and online sessions)
- Teachers **developed their English language proficiency skills, their digital literacy , as well as their social skills and time management skills**

Reported challenges

- Internet connectivity issues and limited data bundles
- The timing of the online sessions
- Challenges in using the tablets
- Climate-related disruptions
- Issues with the level of content of the course (for some teachers)
- Lack of continuous support after the completion of the online sessions.

Equity and inclusion

In terms of equity and inclusivity, a key theme emerging from this study is that although both women teachers and visually impaired teachers enjoyed the blended training approach (i.e. the combination of both face-to-face and online modalities), women teachers preferred the face-to-face sessions, whereas visually impaired teachers preferred the online sessions. The findings show that most in-service women teachers preferred face-to-face learning because time poverty, distractions at home, and the additional load of online learning often exacerbated their existing triple burden.¹ However, despite finding the lack of adapted resources challenging, visually impaired teachers preferred online learning, feeling comparatively more included.

These findings indicate that different marginalised or disadvantaged groups may experience non-overlapping benefits and challenges from the same training material and training modalities. This suggests that future teacher training and CPD initiatives could be designed to be equitable and

inclusive by considering participants' needs and preferences at both the design and delivery stages. To overcome the challenges affecting different participant groups such as women teachers and those with disabilities, it is suggested that local representatives from different participant groups be included in the design and delivery stage of any training programme, mandatory disability and gender awareness training be provided to those delivering the training, and support should be given to establishing social support groups for participants, such as Communities of Practice.² All the above improvements can contribute to the development of a gender-and-disability-aware training course.

Recommendations

The figure below summarises the recommendations of the study in terms of the effectiveness and quality of implementation, and equity and inclusivity.

¹ Moser's triple role framework (1993) poses that women often have a triple role; a productive one involving income generating activities, a reproductive one involving childcare and rearing, elder care and domestic responsibilities, and a community one encompassing their social and political responsibilities within a community. (Moser, C., (1993). Gender planning and development: Theory, practice and training. Routledge). In STELIR, women teachers had to balance both their existing reproductive and community roles, and the increased workload emerging from the online training they undertook as part of their productive role.

² Communities of Practice (CoPs) or professional learning communities include groups of individuals who have common interests and discuss, interact and share learning and experiences about common issues. Ecctis conducted a study with the British Council India and the Centre for Intrinsic Motivation on the effectiveness of CoPs for teacher professional development in Maharashtra and New Delhi. As part of the study, Ecctis developed a report presenting the key findings and recommendations of the study, a CoP toolkit for teachers and a CoP guidance framework for policymakers. The outputs of the study are available here: <https://www.britishcouncil.in/effectiveness-communities-practice-teacher-professional-development-maharashtra-and-new-delhi-0>

Resources and infrastructure	• Recommendation 1: Ensuring that internet connectivity, facilities and infrastructure are in place and increasing the data bundles provided to the teachers for the training • Recommendation 9: Ensuring that additional assistance, visual aids, voice recognition software and resources in Braille for visually impaired participants are in place before the start of the online course
Timing of the online sessions	• Recommendation 2: Changing the timing of the online sessions to meet the needs of both in-service and pre-service teachers • Recommendation 3: Ensuring that in-service teachers have protected time during the school days to dedicate to their CPD and attend the online sessions, especially for women teachers • Recommendation 10: Ensuring that women teachers have a protected window during their school week to dedicate to their CPD
Continual support and guidance	• Recommendation 4: Ensuring that technical support and guidance is provided prior to the start of the online sessions • Recommendation 5: Providing continuous support and guidance on English language skills and digital literacy after the completion of the online sessions • Recommendation 6: Creating mechanisms that would allow the continuous interaction and communication among training participants after the completion of the online course
Incentives and certification	• Recommendation 7: Providing incentives and certification to training participants after the completion of the online sessions
Awareness of the training groups	• Recommendation 8: Arranging first some subject-specific training groups for in-service teachers, followed by some mixed-subject training sessions • Recommendation 10: Considering participants' needs and preferences in the design and delivery stage of the course • Recommendation 11: Adapting the content, resources, tasks and assignments prior to the start of the online course to meet the needs and preferences of different groups of participants
Flexible and inclusive practices	• Recommendation 12: Including representatives from different participant groups in the design and delivery of any training programme, who are local • Recommendation 13: Providing mandatory gender and disability awareness training to those who deliver the course • Recommendation 14: Allowing participants to swap training modalities • Recommendation 15: Supporting the establishment of participants' social support groups

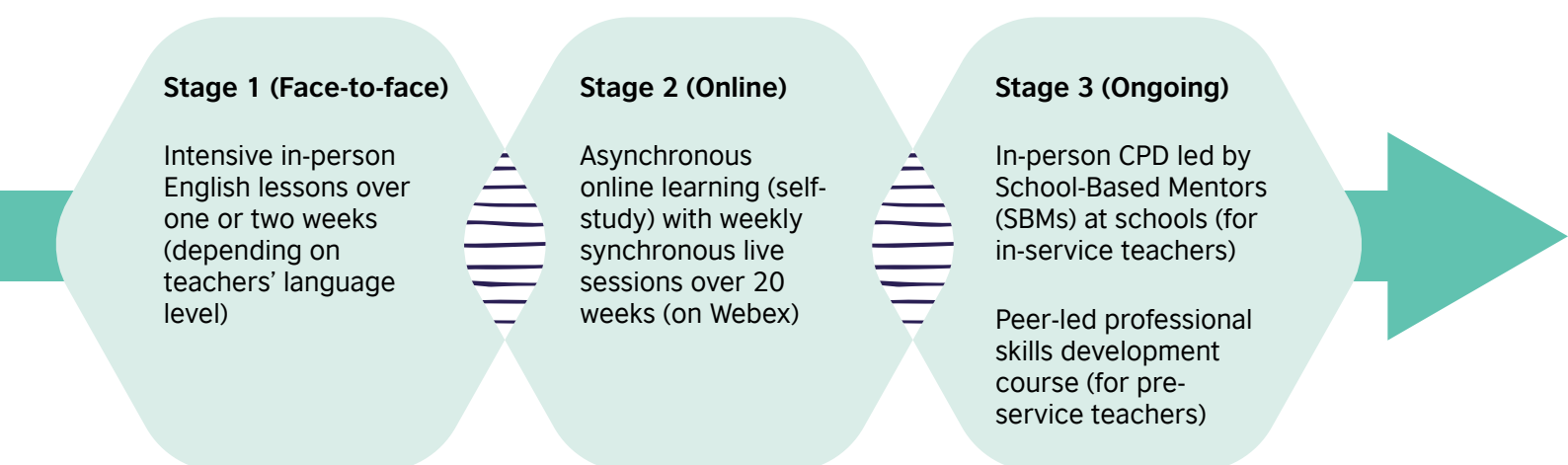


1. Introduction

1.1 Context and scope

In 2022, the British Council launched the The British Council has significant experience in implementing teacher training and Continuous Professional Development (CPD) for teachers in Rwanda and beyond – both through the English Programmes (EP), which aims for transformational change in English language policy and practice, and through other teacher CPD initiatives. The Secondary Teachers' English Language Improvement Rwanda (STELIR) project aims to improve the English language proficiency skills of Lower Secondary Teachers (LSTs) in Rwanda. STELIR started in 2022, and it is planned to run for three years through the end of 2025. STELIR is delivered in collaboration with Mastercard Foundation and implemented by the British Council in cooperation with the Rwanda Basic Education Board (REB). More specifically, STELIR is a blended English language course which aims to provide intensive face-to-face sessions delivered by English Teacher Trainers (ETTs) alongside online sessions (including self-study and live sessions on Webex) delivered by international e-trainers and eTeacher/Moderators (eTMs), and school-based professional development sessions led by school-based mentors (SBMs). One of the aims of STELIR is the development of a cadre of local ETTs and eTMs who will provide continuous training and support to LSTs after the project is completed.³ The STELIR blended English language course consists of three stages, as illustrated in the figure below:

Figure 1: Structure of the STELIR blended English language course



1.2 Aims of the project

In this context, the British Council commissioned Ecctis to conduct research focused on the effectiveness and quality of the implementation of STELIR's online stage, focusing on innovations in blended / online learning on teachers' CPD in Rwanda. More specifically, this study focuses on the themes of inclusion and equity in teacher training and CPD, and the use of blended learning including innovations in education technology. The main aims of the study are to:

Aim 1: identify barriers to inclusion and equity, as well as the development of Information and Communication Technology (ICT) skills, as experienced by STELIR participants

Aim 2: identify potential mitigation strategies to address these barriers; and

Aim 3: provide recommendations to refine the ongoing initiative as well as to enhance policy and practice in future initiatives.

To meet each of the project's objectives, the present study is divided into two different components, each with associated activities and deliverables:

Component 1 – Desk-based research: a literature and document review to explore key aspects of blended or online learning and CPD programmes internationally, examples of blended or online CPD programmes in Sub-Saharan Africa (SSA) and Rwanda, and the education policy context in Rwanda.

Component 2 – Process evaluation: stakeholder engagement activities to explore the perceived effectiveness and quality of implementation, impact, equity and inclusivity, specifically exploring the experiences of women teachers (WTs) and those with disabilities (TWDs) of participating in STELIR's online stage.

1.3 Structure of this document

Section 2 presents the methodology deployed, including the aims and research questions that the process evaluation aims to answer, the methods of data collection and analysis, as well as information regarding the sample used.

Section 3 includes the literature review conducted as part of the project, which aims to provide background and contextual information on blended or online teacher training and CPD programmes, examples of blended or online teacher training courses in SSA and Rwanda, and the education policy context in Rwanda.

Section 4 presents the findings from the process evaluation of STELIR's online stage, structured thematically around the key areas emerged from the survey, interviews and focus groups with in-service and pre-service teachers, WTs and TWDs, eTMs, and the observations of the online sessions. The findings in this section are structured around the theme of perceived effectiveness and quality of STELIR's online stage, and the theme of equity and inclusion.

Section 5 provides a summary of the key findings of the study, organised thematically, based on the different thematic areas that emerged from the literature review and the process evaluation of STELIR's online stage.

Section 6 provides the recommendations of the study emerged from the literature review and the process evaluation of STELIR's online stage.

Appendix 1 presents the findings from the fieldwork regarding the perceived effectiveness and quality of the face-to-face sessions of the STELIR course. Since the focus of this study is on the online component of the course, any findings that emerged around the face-to-face sessions are presented in Appendix 1.

Appendix 2 presents the findings of the process evaluation structured per research question of the study.

³ British Council (2024). Secondary Teachers English Language Improvement Rwanda (STELIR). Available at: <https://www.britishcouncil.rw/programmes/education/secondary-teachers-english-language-improvement-rwanda-stelir>; British Council (2024). Secondary Teachers English Language Improvement Rwanda (STELIR). Supporting both in-service and pre-service teachers to develop their English language skills. Available at: https://www.britishcouncil.rw/sites/default/files/stelir_sep24_leaflet_pre-service_2.pdf

2. Methodology

2.1 Key Research Questions

The Key Research Questions of the study are presented under the two main themes explored in the project, including the theme of inclusion and equity, and the theme of ICT for blended learning.

Theme 1: Inclusion and Equity

RQ1: What are the main barriers to participation by WTs and TWDs in blended / online CPD, and how can these best be addressed?

RQ2: What is the perceived quality and value of the STELIR blended CPD experience, including whether all participants are treated equally?

Theme 2: ICT for blended learning

RQ3: In a culture where face-to-face interaction is preferred, including in education, what effect does the introduction of remote forms of learning have on engagement in CPD programmes?

a. How well do teachers, in particular WTs and TWDs, adjust to this new learning modality?

RQ4: What proportion of STELIR teachers have limited ICT skills, and to what degree?

a. What are the effects of teachers' limited ICT skills, especially on the part of WTs and TWDs, on rates of participation and engagement in online learning, including live listening and speaking practice?

b. To what extent do limited ICT skills create a barrier to success in a blended learning programme?

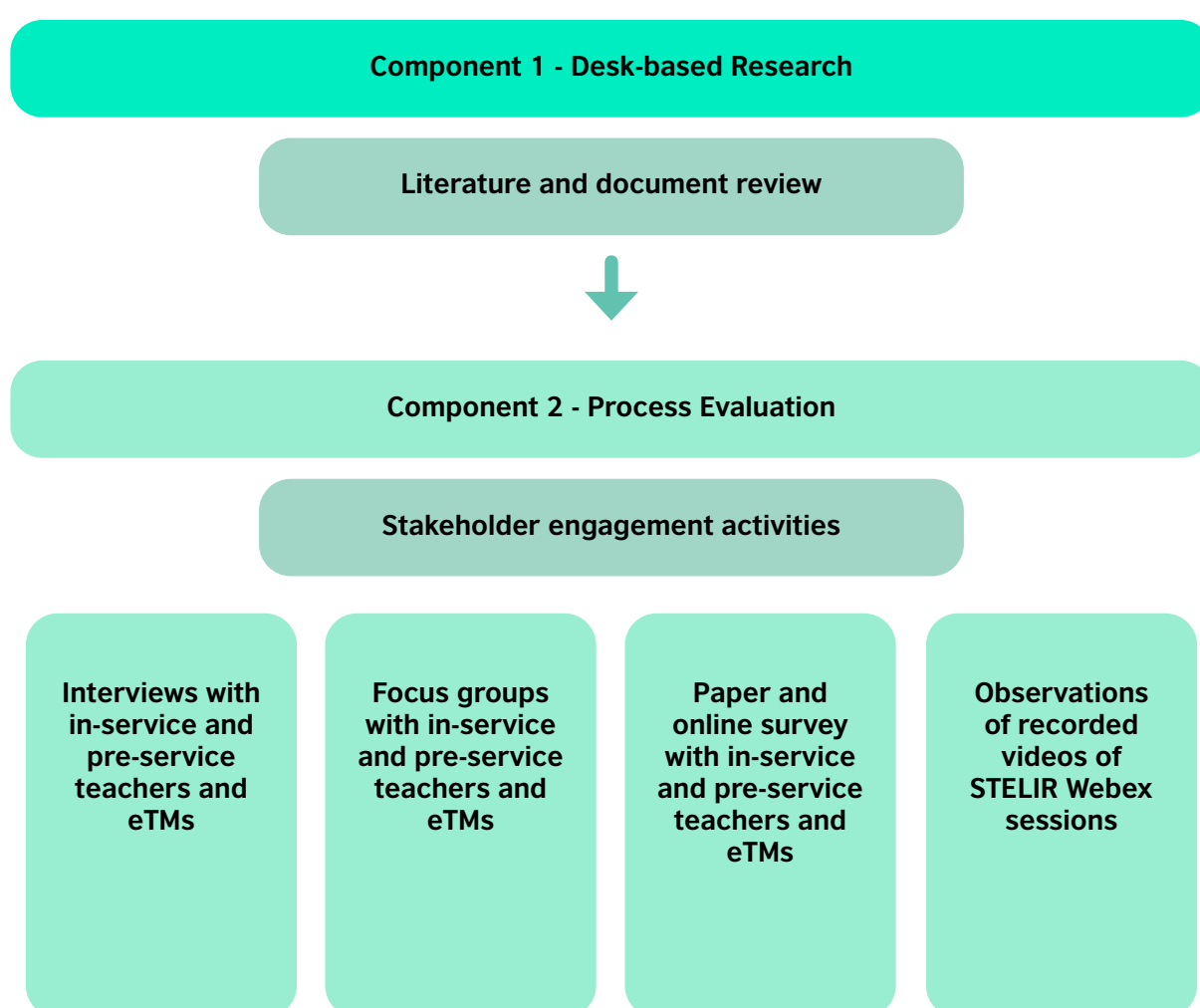
RQ5: How effective are measures adopted to support teachers with limited ICT skills in terms of increased participation and engagement levels in online learning?



To answer the Key Research Questions presented above, the research study included two components: Component 1 consisted of the desk-based research including a literature and document review, and Component 2 which was a process evaluation consisting of several stakeholder engagement activities.

A visual representation of the project's methodological approach can be found in the figure below:

Figure 2: Visual representation of the project's methodological approach



2.2 Component 1 – Desk-based research

Component 1 of the project is concerned primarily with the following Key Research Questions:

RQ1: What are the main barriers to participation by WTs and TWDs in blended / online CPD, and how can these best be addressed?

RQ3: In a culture where face-to-face interaction is preferred, including in education, what effect does the introduction of remote forms of learning have on engagement in CPD programmes?

a. How well do teachers, in particular WTs and TWDs, adjust to this new learning modality?

RQ5: How effective are measures adopted to support teachers with limited ICT skills in terms of increased participation and engagement levels in online learning?

As articulated in the Key Research Questions 1, 3 and 5, the literature review built an

initial picture, establishing key trends and evidence, internationally and locally, in the following areas:

1. Blended or online learning in CPD programmes, including innovations in low- and middle-income countries (LMICs).
2. Barriers to access or participation in blended or online CPD, especially for WTs and TWDs, and best practice for overcoming them.
3. The impact of remote learning on teachers' engagement and participation in CPD programmes.
4. The extent to which WTs and TWDs adjust to online learning.

The project's desk-based research component focuses primarily on SSA and Rwanda. However, the research also drew from wider international literature on best practices on blended or online training and CPD, considering how these may be applicable and generalisable to the SSA context. During Component 1, Ecctis drew on project reports and evaluation studies conducted by the British Council and other organisations. Additionally, the research team reviewed the wider literature to explore current evidence around the use of blended learning in CPD programmes, the barriers to access or participation in blended/online training and the impact of remote learning on



teachers' participation in CPD programmes, especially relating to WTs and TWDs. Particularly, the focus of the desk-based research was on compiling existing evidence on blended or online CPD programmes, and their implementation and impact in LMICs, identifying gaps in knowledge which can be explored further through the stakeholder engagement activities.

The research team selected a narrative literature review process over a systematic one because the research questions are broad and because the former allows multiple meanings and interpretations to emerge through the literature data (Sukhera, 2022). Therefore, a narrative literature review enabled flexibility in the collection, summary, description, critical analysis and evaluation of the literature. While the research questions guided the literature search, the research team used a wide range of key words and terms to identify literature around specific areas of the project which are under-researched, for example equity and inclusion in blended or online learning programmes, specifically in the context of SSA. This process allowed a flexible critical analysis, evaluation and synthesis of a diverse body of literature and allowed the research team to familiarise themselves with different aspects of blended or online learning and CPD in the context of SSA (Sukhera, 2022).

2.3 Complement 2 – Process Evaluation

2.3.1 Aim and Research Questions

This process evaluation examined the effectiveness and procedural quality of the implementation of STELIR's online stage. It

focused on the processes followed, with the ultimate objective being to inform decisions about improving the implementation of STELIR's online stage, particularly concerning the elements of inclusion and equity, as well as teachers' development of ICT skills through blended or online learning. The study explored the experiences of teachers participating in STELIR, as well as those of the e-teacher moderators (eTMs) trained by STELIR to deliver online sessions. More specifically, the study aimed to gain in-depth insights into teachers' and eTMs' satisfaction with and perceptions of the programme. This included barriers to participation and engagement – with a particular focus on equity and inclusion – and the development of ICT skills through blended or online training models. From this, suggestions and recommendations for improving the implementation of STELIR's online stage and future blended or online training and CPD programmes were made.

To do so, the process evaluation component was designed around the following Key Research Questions:

RQ1: What are the main barriers to participation by WTs and TWDs in blended / online CPD, and how can these best be addressed?

RQ2: What is the perceived quality and value of the STELIR blended CPD experience, including whether all participants are treated equally?

RQ3: In a culture where face-to-face interaction is preferred, including in education, what effect does the introduction of remote forms of learning have on engagement in CPD programmes?



a. How well do teachers, in particular WTs and TWDs, adjust to this new learning modality?

RQ4: What proportion of STELIR teachers have limited ICT skills, and to what degree?

a. What are the effects of teachers' limited ICT skills, especially on the part of WTs and TWDs, on rates of participation and engagement in online learning, including live listening and speaking practice?

b. To what extent do limited ICT skills create a barrier to success in a blended learning programme?

RQ5: How effective are measures adopted to support teachers with limited ICT skills in terms of increased participation and engagement levels in online learning?

To respond to the Key Research Questions and associated sub-questions presented above, the project team collected, reviewed, synthesised, and triangulated qualitative and quantitative data from multiple data sources. The methods used are explained in further detail below.

2.3.2 Methods of data collection and sample

Ecctis sought to gain teachers' and eTMs' views of the different factors that have facilitated the implementation of STELIR's online stage, and the factors that may have emerged as barriers. In doing so, the stakeholder engagement activities conducted sought to shed light on the perceived successes and challenges to the implementation of the programme – with a particular focus on how these were perceived by WTs and TWDs.

Ecctis deployed both qualitative and quantitative data collection methods and analysis, partnering with a research team from the Catholic University of Rwanda's (CUR's) Faculty of Education to support the research process. The participants engaged for the purposes of this study were identified by the British Council, while the data collection activities were carried out by the Ecctis research team and the researchers from the CUR. Table 1 presents an overview of the stakeholder engagement activities conducted as part of the project.



Table 1: Overview of stakeholder engagement activities (including the activity type, number of activities conducted, and number of people engaged)

Stakeholder engagement activity type	Number of activities conducted, and number of people engaged (disaggregated by gender and disability)	Conducted / Disseminated by	Mode of the activities	Location of the activities	Date and duration of the activities
Interviews with in-service WTs	1 interview (1 woman participant)	Ecctis and the CUR	Researchers from Ecctis and the CUR conducted face-to-face interviews and focus groups with in-service teachers.	The in-service teachers interviewed for the purposes of the project were based at schools in the following districts in Rwanda: • Rwamagana • Kamonyi Nyaruguru • Gisagara	Over a week in June 2024.
Focus groups with in-service WTs	1 focus group (2 women participants)				
Focus groups with in-service TWDs	1 focus group (3 visually impaired participants – 2 men, 1 woman)				
Focus groups with in-service teachers	12 focus groups Group 1: 5 participants (5 men) Group 2: 6 participants (4 men, 2 women) Group 3: 5 participants (2 men, 3 women) Group 4: 6 participants (2 men, 4 women) Group 5: 2 participants (2 men) Group 6: 6 participants (3 men, 3 women) Group 7: 8 participants (5 men, 3 women) Group 8: 14 participants (9 men, 5 women) Group 9: 11 participants (7 men, 4 women)				
Focus groups with pre-service teachers	3 focus groups Group 1: 4 participants (2 men, 2 women) Group 2: 2 participants (2 women) Group 3: 3 participants (3 men)		Researchers from Ecctis and the CUR conducted online focus groups with pre-service teachers.	Online focus groups	Over a week in July 2024.
Focus groups with eTMs	3 focus groups Group 1: 4 participants (2 men, 2 women) Group 2: 5 participants (3 men, 2 women) Group 3: 6 participants (4 men, 2 women)	CUR	Researchers from the CUR conducted face-to-face focus groups with eTMs.	The focus groups with eTMs were conducted in Park Inn Kiyovu Kigali.	Over two consecutive days in June 2024.

Table 1 (continued): Overview of stakeholder engagement activities (including the activity type, number of activities conducted, and number of people engaged)

Stakeholder engagement activity type	Number of activities conducted, and number of people engaged (disaggregated by gender and disability)	Conducted / Disseminated by	Mode of the activities	Location of the activities	Date and duration of the activities
Observations of STELIR online sessions (recorded videos of the live sessions on Webex)	14 observations	Ecctis	N/A	N/A	Over one week in June 2024.
Paper survey with in-service teachers	See below total number of responses from both paper and online surveys.	Ecctis and the CUR	Researchers from Ecctis and the CUR disseminated the paper surveys to in-service teachers during the site visit in the schools in Rwanda.	The paper surveys were completed by the in-service teachers based in schools in the following districts in Rwanda: • Rwamagana • Kamonyi Nyaruguru • Gisagara	Over one week in June 2024.
Online survey with pre-service and in-service teachers	See below total number of responses from both paper and online surveys.	Designed by Ecctis and CUR, Disseminated by the British Council	The British Council disseminated the online survey to in-service and pre-service teachers who took part STELIR course.	N/A	Over three weeks in July 2024.
Total number of responses in the paper and online survey	192 responses • 124 men, 67 women, 1 prefer not to say • 10 participants with disability • 117 pre-service teachers (40 women, 76 men, 1 prefer not to say) • 74 in-service teachers (27 women, 47 men)	Designed by Ecctis and CUR, Disseminated by the British Council	Paper survey: Researchers from Ecctis and the CUR disseminated the paper surveys to in-service teachers during the site visit in the schools in Rwanda. Online survey: The British Council disseminated the online survey to in-service and pre-service teachers who took part STELIR course.	N/A	Paper survey: Over one week in June 2024. Online survey: Over three weeks in July 2024.

In consultation with the British Council and in partnership with the CUR, Ecctis designed the data collection tools for the stakeholder engagement activities. Ecctis then provided a training session to the research team of the CUR on the qualitative data collection methods and tools to support an aligned and consistent approach between the two research teams. Notably, the design of the data collection tools was informed by the literature review and desk-based research. More specifically, the data collection tools included the interviews, focus groups, meeting observations and the paper and online survey, were designed to address any remaining gaps in knowledge that emerged following the desk-based research exercise.

Prior to the interviews and focus groups each participant was given a Participant Information Sheet and Consent Form which provided information on the background of the project, the aim of stakeholders' participation in the interviews and focus

groups as well as information about how the data collected will be used and securely stored. The interviews and focus groups with in-service and pre-service teachers were conducted through a mix of English and Kinyarwanda. Across all interviews and focus groups there were occasions where participants felt more comfortable in expressing themselves in Kinyarwanda. In these cases, participant responses were translated in situ by the CUR researchers as needed. Each interview and focus group with in-service and pre-service teachers were conducted by at least three researchers; two from Ecctis and one from the CUR. As the interviews and focus groups were not recorded, researchers from Ecctis and the CUR took notes during the activities.



2.3.3 Methods of data analysis

Ecctis analysed the data collected from each stakeholder engagement activity through thematic analysis, coding the data collected to extract key themes and synthesising the findings. The thematic analysis of the data collected was conducted manually by two researchers from Ecctis. Following an analysis of the data collected, the data was cross-checked to identify common themes and potential differences in findings across the various stakeholder engagement activities, with a focus on themes relating to the quality of the implementation of the STELIR course, barriers to participation (especially for WTs and TWDs) and how these might be addressed, as well as teachers' perceptions of how the online training had impacted their ICT skills and digital literacy.

Thematic analysis as a method for qualitative data analysis facilitated a systematic approach to data analysis by supporting the researchers to identify themes and patterns within and throughout participants' data (Braun & Clarke,

2012). In the context of this project, thematic analysis facilitated the identification of common interpretations, meanings and experiences shared among pre-service and in-service teachers and eTMs around the effectiveness of implementation of STELIR's online stage and any barriers to participation, particularly experienced by WTs and TWDs. Additionally, thematic analysis allowed the emergence of any unique data, supporting the identification of thematic commonalities but also differences within the data sets (Braun & Clarke, 2012). More specifically, the research team employed an inductive approach, which is a 'bottom-up approach' where the coding of the data and analysis were driven by what is included in the data (Braun & Clarke, 2012, p. 58).

2.3.4 Coding of quotes in this report

Table 2 summarises how quotes have been coded and are referred to throughout the report. All references contain a unique letter and number.

Qualitative data	Code	Examples
Focus groups with in-service teachers	IFG + number	IFG1, IFG2, IFG3, ...
Focus groups with pre-service teachers	PFG + number	PFG1, PFG2, PFG3, ...
Focus groups with TWDs	DFG + number	DFG1
Focus groups with WTs	FFG + number	FFG1
Focus groups with eTMs	EFG + number	EFG1, EFG2, EFG3, ...
Women teachers	W + number	W1, W2, W3, ...
Men teachers	M + number	M1, M2, M3, ...

Table 2: Referencing of the qualitative data throughout the report



2.4. Limitations of the study

To adequately situate the key findings and recommendations of the project presented in the following sections, it is important to highlight some relevant methodological limitations of the study.

- **Survey response rates:** Although all questions on the paper and online survey were translated in Kinyarwanda which was the local language for most teachers surveyed, not all participants submitted the full form as they had the option to skip questions and stop the survey at any point. As a result, the response rates to both the paper and the online survey varied, with lower response rates identified in some questions especially in the online survey.
- **Stakeholder engagement with TWDs:** Although the British Council invited TWDs who participated in STELIR to take part in interviews and focus groups, only visually impaired teachers (VITs) participated in the research. Therefore, further research exploring the experiences of teachers with other types of disabilities who participated in STELIR's online stage, such as physical disabilities, is suggested.
- **Small sample of VITs:** According to information provided by the REB, only 22 VITs were working in primary and secondary schools across Rwanda in 2022.⁴ Although there is a small sample of VITs in Rwanda, during the stakeholder engagement activities the research team conducted one focus group with only three VITs working in one school in Rwanda. Therefore, due to the small sample of VITs interviewed, the findings are not completely generalisable.
- **Small sample of pre-service teachers in interviews and focus groups:** The research team was not able to conduct face-to-face interviews and focus groups with pre-service teachers during the site visit in Rwanda in June 2024. This was because during that time pre-service teachers had completed their studies and exams for the academic year, and therefore they were not available to participate in stakeholder engagement activities. For this reason, researchers from Ecctis, in collaboration with researchers from the CUR, conducted online focus groups with pre-service teachers. Although researchers from Ecctis contacted a large number of pre-service teachers, only a small number of them responded. Therefore, the research team managed to conduct only three focus groups with pre-service teachers, including five men and four women.
- **Intersectionality:** The sample of the research included only one WT who was visually impaired. For this reason, it was challenging to draw findings regarding intersectionality between gender and disability. Therefore, further research on the experiences of blended or online learning of WTs who are visually impaired is recommended. Additionally, further research exploring how gender, different types of disability, age, class, race and other potentially intersecting factors may impact experiences of STELIR's online stage and blended or online learning in SSA more generally, is also recommended.

⁴ Rwanda Basic Education Board. (2022). "You need to be confident, you are able! since some of you were selected as best performing teachers in previous years." Says by Director General of REB while awarding laptops to teachers with visual impairment." Available at: <https://www.reb.gov.rw/news-detail/you-need-to-be-confident-you-are-able-since-some-of-you-were-selected-as-best-performing-teachers-in-previous-years-says-by-director-general-of-reb-while-awarding-laptops-to-teachers-with-visual-impairment>



2.5. Lessons learnt during the study

During the research process, several lessons learnt emerged, particularly related to the data collection process. During the focus groups with pre-service teachers, participants faced several connectivity issues which meant that it was occasionally difficult for the researchers to hear what participants said, which therefore affected the quality of the data collected. Although the online focus groups allowed the research team to get insights from pre-service teachers' experiences when there was no opportunity to conduct in-person focus groups (see limitation section above), a key lesson learnt during the research process is that in-person data collection worked better because participants did not face connectivity-related challenges. Furthermore, during the data collection, both the online and in-person interviews and focus groups were not audio recorded. Therefore, to best capture and document the data from the interviews and focus groups, at least two researchers from Ecctis took notes during each interview and focus group. This allowed the researchers to triangulate their notes following each interview and focus group to maximise the accuracy of the data collected. Although in most cases the researchers were able to capture participants' quotes through this process, the audio recordings of the interviews and focus groups would have enabled the researchers to refer to the data when needed and identify a larger number of participants' quotes.

Additionally, as mentioned above, during the interviews and focus groups all participants had the opportunity to speak either in English or in Kinyarwanda. This worked particularly well during both the online and in-person interviews and focus groups as it allowed participants to express themselves and share their views and experiences in the language that they felt most comfortable with. At the same time, this allowed the

research team to gain rich data and in-depth insights on the perceptions and experiences of participants, increasing the validity, reliability and accuracy of the data collected. Additionally, having a local partner on the ground, in this case researchers from the CUR Faculty of Education, was particularly crucial in facilitating interactions with the schools and support with translation during the stakeholder engagement activities. Additionally, the women-only and VITs-only focus groups were considered particularly valuable because each WT and VIT felt comfortable to express themselves and share their perceptions and experiences about their participation in the programme in a safe space alongside other WTs and other VITs.

Furthermore, the partnership with the researchers from the CUR was considered particularly valuable in establishing cross-cultural collaboration. This supported exchange of learning and expertise, as well as better understanding of the socio-cultural context, such as for example the education policies and practices in Rwanda. This was particularly helpful during the design of the data collection tools where Ecctis researchers in partnership with researchers from CUR designed the data collection tools such as the survey, interview and focus group questions to reflect the social and cultural context and norms of Rwanda.



3. Literature review

This literature review summarises key trends and evidence around blended or online teacher training and CPD, internationally and locally in the context of SSA and Rwanda, focusing on the following aspects:

- Blended learning in CPD programmes, including innovations in LMICs
- Barriers to access or participation in blended / online CPD for WTs and TWDs, and best practice for overcoming them
- The impact of remote learning on teachers' engagement and participation in CPD programmes
- The extent to which WTs and TWDs adjust to online learning.

Although this literature review focuses primarily on SSA and Rwanda, the research also draws from wider international literature on best practices around blended learning, considering how these may be applicable and generalisable to the Rwandan and SSA context. More specifically, the literature review provides an overview of existing evidence of blended or online teacher training and CPD programmes, and their implementation and impact in LMICs. It also presents an overview of the education policy context in Rwanda and examples of teacher CPD programmes in the country.

3.1. Blended learning and CPD programmes

This section provides an overview of the definition, aims and benefits of blended learning, common challenges faced by teachers in participating in blended / online training and CPD programmes, and possible ways through which such challenges can be overcome. A special focus is also placed on the elements of equity and inclusion in blended learning, particularly on the barriers faced by women and teachers with disabilities when taking part in blended learning courses.

3.1.1. Definitions of blended learning and CPD

Blended learning, also referred to as 'hybrid learning', 'mixed mode learning', or 'technology-mediated/enhanced learning' (Wang et al, 2015), is defined as the combination of face-to-face and online learning, utilising both traditional classroom instruction and online instruction (Amiruddin et al, 2022; Darawsha & Galia, 2020). It is an increasingly common format for teacher training and CPD courses (Burns, 2023), often combining traditional learning processes, instructional methods and modalities, such as lectures and in-person

discussions, with online learning processes, such as virtual breakout rooms (Clague et al, 2023; Darawsha & Galia, 2020).

As blended learning mixes traditional forms of learning inside the classroom with e-learning outside the classroom, this approach often utilises a wide range of media and resources aimed at increasing students' engagement in their learning and promoting interactions both among learners and between learners and teachers (AL-Azzam et al, 2023; Amiruddin et al, 2022). Examples of such digital media may include virtual coaching and mentoring, social messaging platforms, videos, blogs, email, digital forums, discussion boards, visual laboratories, presentations, e-books and online teaching guides, subject-specific applications, content delivered and disseminated via the TV or radio, as well as physical resources such as printed materials and books (AL-Azzam et al, 2023; Hennessy et al, 2022; UNICEF, 2021). In summary, blended learning is understood in this study as a learning approach which consists of a 'combination of instructional modalities and media, instructional methods and online and face-to-face instruction' (Tayebnik & Puteh, 2013, pp. 2-3).

3.1.2 Aims of blended learning and CPD

Blended learning can have multiple aims. Often, the adoption of this learning modality aims to improve both the delivery of a learning course and the quality of the learning content itself through the integration of technology, such as digital tools and platforms (Amiruddin et al, 2022). More specifically, blended learning may be adopted to accommodate the learning needs and interests of different groups of learners, offering a wider combination of pedagogical approaches and instructional methods (Clague et al, 2023).

Another often key aim of blended learning is to promote student interaction and engagement through a multimodal approach to learning, where students and teachers can collaborate in both online and offline settings (Amiruddin et al, 2022). In blended learning, the role of the teacher is not only to deliver the content but also to moderate and facilitate the discussions and interactions among the students, as well as to provide guidance and support to learners and help them develop their content knowledge, increase their active participation and improve their digital skills and literacy (Clague et al, 2023).

3.1.3. Benefits of blended learning and CPD

The literature outlines several potential benefits of blended learning, including:

- The development of students' independence and autonomy
- The creation of a collaborative and interactive learning environment
- The promotion of international collaboration
- The development of teachers' digital skills and digital literacy
- The improvement of teachers' learning outcomes and communication/language skills
- The flexibility that it provides in terms of attendance and participation.

Evidence from the literature indicates that there can be several benefits of blended learning for both students and teachers. One of the biggest benefits cited in the literature is blended learning's potential to increase students' independence and their ability to take ownership of their own learning (Amiruddin et al, 2022; Darawsha, & Galia, 2020). This is due to the flexibility offered by blended learning as a format, which often allows learners to work independently and autonomously through accessing resources and conducting individual assignments online and on-demand, but also encourages them to interact with peers in person and collaborate through group assignments and/or discussions (AL-Azzam et al, 2023; Clague et al, 2023; Uribe-Banda et al, 2023).

Blended learning can also provide an interactive learning environment for students where they can collaborate, exchange learning and experiences, and learn from each other through not only face-to-face but also online group projects and discussions with peers (Clague et al, 2023). This interactive learning process, which is at the heart of blended learning, can encourage learners to become more engaged and active participants in the learning process, which can lead to increased

collaboration in research projects, activities, and discussions (AL-Azzam et al, 2023).

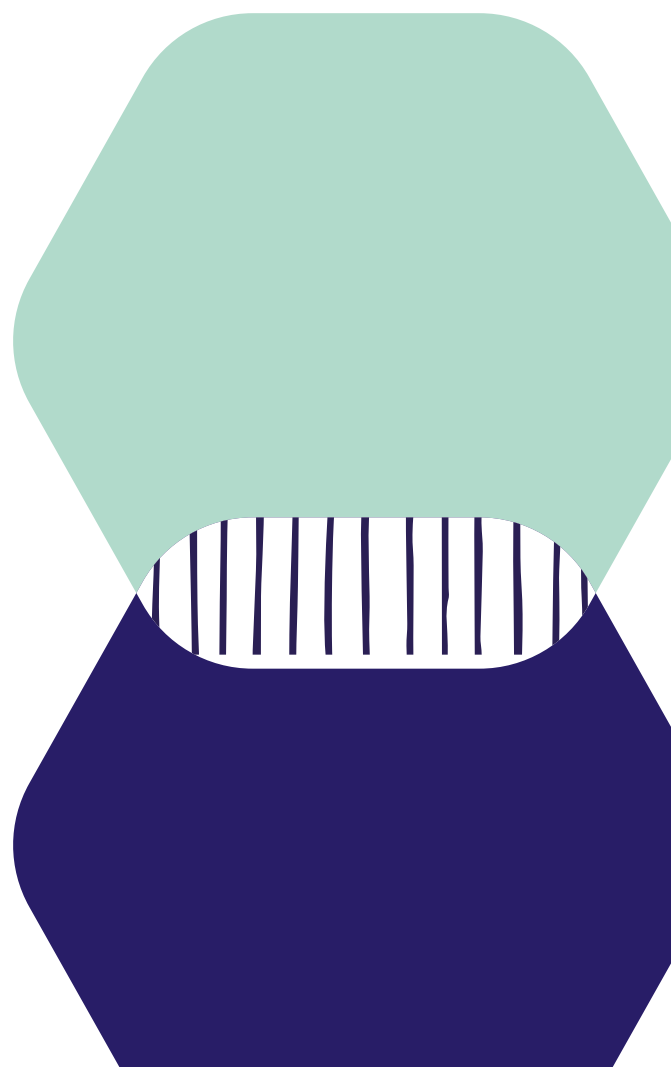
In teacher training and CPD, blended learning approaches can also support international collaboration between teachers from different countries and sociocultural contexts and allow them to interact, discuss their experiences and share learning (Clague et al, 2023). Research shows that although teachers usually prefer face-to-face sessions because they are still perceived as being more conducive to collaboration and direct communication with one another, the properties of the digital tools offered in the online sessions of a blended learning course can further support their discussions and exchange of learning experiences even after course completion; for example, through social media platforms (Burns, 2023). Therefore, in a blended learning course teachers can reap the benefits of both training modes – the face-to-face and the online sessions – to further develop their knowledge, skills and competencies as well as to work together and interact with one another.

Several studies also highlight the benefits of blended learning on students' digital skills, digital competencies and digital literacy more broadly (AL-Azzam et al, 2023; Amiruddin et al, 2022; Darawsha, & Galia, 2020). This is because the use of digital and online tools and platforms in blended learning allows learners to routinely practise their digital skills and seek support (both in-person and online) from teachers/trainers when needed to further improve their technological competencies (AL-Azzam et al, 2023; Amiruddin et al, 2022; Darawsha, & Galia, 2020; Uribe-Banda et al, 2023). For example, the findings of a recent study evaluating a blended 12-week teacher professional development programme in Kenya found that teachers reported an increased level of confidence and familiarity in using digital tools and platforms after the course, as well as a greater ease of navigating digital content and software (Uribe-Banda et al, 2023). This is also supported by the early findings of the British Council's ongoing Teacher Professional Development (TPD) at scale study funded by the Canadian International Development Research Centre (IDRC) which focuses on the STELIR as a case study (British Council, 2024).

In terms of content knowledge, evidence shows that blended training and CPD for teachers may lead to better learning outcomes for teachers than purely face-to-face or purely online training (Means et al, 2013). In the context of English teacher training, as English learning focuses on the development of four foundational skills – including the receptive skills of reading and listening and the productive skills of speaking and writing – research shows that blended learning (with the support of digital tools and platforms) can effectively support the development of English language skills, especially those of second language learners. More specifically, evidence suggests that blended learning can effectively help teachers improve their English language skills through developing their grammar, spelling, punctuation, listening, and speaking skills (Amiruddin et al, 2022). Findings of a case study exploring teachers self-reported impact of the STELIR course in Rwanda which was conducted at the end of March 2024 (15 months of STELIR implementation) also indicate that 97% of the participating teachers reported that they felt more confident to use English in their classroom (British Council, 2024).

Another notable benefit of blended learning is the flexibility that it can offer to both teachers and students (AL-Azzam et al, 2023; Clague et al, 2023; Darawsha, & Galia, 2020). Through blended learning, teachers can adapt the curriculum content, pedagogical

approaches, and instructional methods through the integration of technology and digital platforms in a creative and innovative way that differs from the methods used in the traditional classroom context (Darawsha, & Galia, 2020). As a result, this participatory, creative approach can increase participants' interest in the training and therefore increase attendance and participation. More specifically concerning teacher training and CPD, studies suggest that the flexibility that blended learning offers can increase teachers' attendance and participation in training and CPD courses, especially among those with caring and family responsibilities (Clague et al, 2023). This is because teachers with caring responsibilities often find it difficult to find time to attend lengthy in-person training, and, as a result, often prefer blended or online learning courses, as they can attend (most) sessions at home and conduct the self-study whenever they are available, in their own time and at their own pace.



3.1.4. Challenges of blended learning and CPD

Apart from the several benefits that blended learning can offer to both educators/trainers and learners, there are also some challenges which can negatively affect the impact and sustainability of blended learning approaches. In the context of teacher training and CPD courses in LMICs, some of those challenges may include:

- Participants' lack of access to digital facilities and infrastructure, electricity, data bundles and internet connectivity issues
- Limited digital skills and competencies among trainees
- Limited knowledge on the integration of ICT into pedagogical practices
- Challenges in finding time and space to engage with the online parts of the blended learning at home
- Teachers' increased workload and responsibilities
- Difficulties in maintaining teachers' engagement and active participation in learning
- Teachers' negative attitudes around the use of technology

- Limited financial and other incentives/rewards for teachers to participate in blended learning.

One of the biggest challenges to the implementation of blended teacher training and CPD courses is participants' **lack of (or limited) access to digital facilities and infrastructure, internet connectivity, data bundles and electricity**; issues that are dominant in LMICs where there is a big digital divide between rural and urban areas (Amiruddin et al, 2022). Research shows that the shortage of technological tools and devices, the instability of internet connectivity, and a lack of electricity can all impede teachers' participation and engagement in the online parts of blended CPD courses (Clague et al, 2023). More specifically, teachers might lack personal digital devices, such as mobile phones, tablets or computers (Arifin & Puspitorini, 2022), reducing their ability to practise their digital skills at home and participate in online sessions (Arifin & Puspitorini, 2022). Furthermore, the lack of ownership of digital devices can affect teachers' ability to work autonomously by conducting research on the topics covered in the blended learning course, impacting their ability to take ownership of their learning (Arifin & Puspitorini, 2022).

While participation in blended learning requires teachers to have some digital skills and literacy, several studies on teacher training and CPD initiatives in SSA highlight that one of the main challenges in developing teachers' digital





competencies consists of **inadequate ICT facilities and infrastructure** (Barasa, 2021; Mugiraneza, 2021). The shortage of sufficient digital tools and devices in both teacher training Higher Education Institutions (HEIs) and teacher training and CPD programmes has been a common challenge across programmes in SSA (Barasa, 2021). The findings of a study which reviewed multiple initiatives focusing on teacher digital skills development in Kenya (with an emphasis on gender) found that a common barrier to trainees seeking to develop their digital skills is the lack of infrastructure, such as computer labs and other rooms with available technological devices, as well as a lack of (or unreliability of) internet connectivity and electricity (Luvanda, 2023). Another study which evaluated a blended teacher development programme in Kenya and one which reviewed a blended learning programme for science teachers in Botswana also identified similar challenges around the lack of resources and infrastructure which impeded the engagement, participation and

active learning of teachers in the blended courses (Boitshwarelo, 2009; Uribe-Banda et al, 2023). Due to the limited infrastructure and issues with internet connectivity in some SSA countries, the development and delivery of purely online teacher training courses is often challenging. A study which reviewed the 'Teacher Education for SSA (TESSA) MOOC – Making teacher education relevant for 21st Century Africa' found that participants faced technical issues in using digital tools, including challenges with downloading and reading online documents from their mobile phones, faced a high cost of data bundles and the lack of electricity (Stutchbury et al, 2023). All the above factors often impede teachers' active engagement and participation in blended learning and have the potential to increase and perpetuate existing social and educational inequalities (Luvanda, 2023). Therefore, this raises the question whether purely online modality in contexts with weak digital infrastructure is a sound modality choice.

Most of the studies reviewed highlight that another challenge in teachers' participation in blended learning is **teachers' limited digital skills and literacy** (Amiruddin et al, 2022; Arifin et al, 2022; Clague et al, 2023; Zeitlin, & Bower, 2018). In Rwanda, for example, studies indicate that although there are several policies which highlight the integration of ICT across all levels of education, teachers have limited digital skills and competencies in using technological tools and platforms, which can be a barrier to their participation in online and blended CPD courses (Mugiraneza, 2021). Furthermore, there is still a relatively low number of teachers who are trained in using digital technologies and embedding them into their teaching and learning practices, as well as generally limited awareness around available opportunities for teacher training and CPD to develop their digital competencies (Mugiraneza, 2021). A study exploring the gender digital divide in Kenya also highlighted that a common problem for both women and men is the limited digital literacy, knowledge and proficiency in using digital tools as well as a lack of ICT training (Luvanda, 2023). This indicates that a blended learning training and CPD course might help build teachers digital skills and competencies.

The integration of ICT in education systems seems to be a challenge across several countries in SSA, as teachers' limited ICT skills can often impede them from integrating digital tools and platforms into their teaching practices in schools across all levels of education (Barasa, 2021). This is also evident in university courses, as the use of the internet as a teaching resource is not fully incorporated into the teaching practices of academic staff (Ndayambaje & Ngendahayo, 2014). Research conducted in Rwanda shows that teachers often lack confidence and familiarity in using digital devices, which further impedes them from embedding technology into their teaching practices (Barasa, 2021). Additionally, the findings from a study conducted by the African

Institute for Mathematic Sciences and the Mastercard Foundation identified the need to provide additional ICT training and support to STEM and ICT teachers in Rwanda, as most teachers in the study reported that they lack confidence in their digital competencies, as well as their ability to integrate ICT into teaching and lesson planning (Barasa, 2021).

The shortage of teachers with the necessary digital competencies can lead to **limited knowledge on how to embed ICT into their pedagogical approaches** in the classroom. A similar finding was evident in a study conducted in Rwanda which showed that a common challenge to the pedagogical use of technology in schools in the country was the lack of teachers' skills in using digital tools and content for pedagogical purposes and the limited exposure of teachers to best practices around the ways that they can best incorporate ICT into their teaching practices in their classroom (Mugiraneza, 2021).

The **limited time and space to attend the online sessions** of a blended learning course is another challenge that teachers often face (Boitshwarelo 2009; Stutchbury et al, 2023). Research shows that online learning can be time-consuming for teachers and that it can be challenging for them to find time to engage with the online parts of the training and study at home alongside personal and professional responsibilities and other engagements during school days or weekends (Boitshwarelo 2009; Clague et al, 2023; Hako et al, 2021; Stutchbury et al, 2023). For example, the findings of a study which explored a teacher professional development programme for secondary school science teachers in Botswana show that the limited resources, space and time made it challenging for teachers to engage with the training (Boitshwarelo, 2009).

Furthermore, several studies highlight that



another challenge to teachers' participation in blended and online training and CPD programmes consists of the **increased workload and responsibilities** for both the teachers taking part in the training and the teacher trainers/moderators who deliver the programme (Amiruddin et al, 2022). For the moderators in particular, evidence suggests that the incorporation of technology through digital resources and activities can increase the workload of those who deliver the training (Amiruddin et al, 2022). Additionally, teachers' participation in blended learning can also sometimes increase teachers' workload as the online element of the training can take longer by requiring participants to not only focus on learning the content of the training but also on developing their digital competencies and literacy.

In the context of SSA, the already heavy teacher workloads, in combination with the **shortage of teachers in schools and the high teacher-pupil ratio**, has been identified across the academic literature as a key challenge in teachers' active participation in blended and online training and CPD courses (Barasa, 2021; Mugiraneza, 2021). In Rwanda, the average student-teacher ratio is 57:1 (reaching 120:1 in some classrooms), which can be a significant barrier to teachers' capacity building and CPD in the country (UNICEF, 2024). This is because the high student-teacher ratio can increase teachers' workload and as a result impede them from participating in training and CPD opportunities. Notably, however, evidence shows that the Rwandan government has been making significant efforts to reduce the teacher-student ratio in primary schools through the recruitment of new teachers (UNICEF, 2024).

The combination of all the above factors can lead to higher workload and responsibilities which can lead to high dropout rates from blended training courses due to **teachers'**

fatigue, discouragement, and lack of motivation (Clague et al, 2023). Moreover, difficulty ensuring and maintaining participants' engagement and motivation can also be a barrier to the effective implementation of blended learning courses. Evidence from the literature focused on LMICs shows that this is usually due to the lack of internet connectivity, which can lead to participants' lack of interest and motivation in learning (Amiruddin et al, 2022; Clague et al, 2023; Hako et al, 2021). In the context of teacher training and CPD, studies conducted in SSA show that teachers' lack of motivation can often affect their participation in blended learning programmes (Nsengimana et al, 2022; Uribe-Banda et al, 2023).

Furthermore, the combination of limited access to ICT resources, network connectivity issues, the lack of digital skills and **teachers' resistance to the use of technology** in learning can lead to teachers' disengagement in the online elements of a blended learning course (Mugiraneza, 2021). Research conducted in SSA shows that teachers are often reluctant to change, especially when using technology for their own learning or to develop their teaching practices (Mugiraneza, 2021; Ndayambaje & Ngendahayo, 2014). Findings from a study conducted in Botswana indicate that although there are policies in the country which support the ICT integration into the education system and the school curriculum by recognising the importance of developing digital skills for teachers, there is less focus on the role of ICT in creating a collaborative, engaging and interactive learning environment (Boitshwarelo, 2009). Similarly, in the context of Rwanda, although there are several policies outlining the importance of the incorporation of ICT into the education system, there is still resistance to change, which is usually attributed to an 'absence of culture around the use of ICT' (Twagilimana, & Mannikko-Barbutiu, 2018, p.378). This often



leads to teachers' hesitation in using and taking advantage of the properties of digital tools and resources not only for their own learning and capacity building, but also to facilitate their students' learning through a participatory and collaborative digital learning environment (Twagilimana, & Mannikko-Barbutiu, 2018, p.378).

The lack of incentives and rewards, such as financial or career progression incentives, is another often-cited reason for teachers' lack of engagement and participation in blended training and CPD courses (Clague et al, 2023). More specifically, teachers report that the perceived lack of incentives and rewards to participate in blended or online learning courses negatively impacts their enthusiasm and motivation (Arifin et al, 2022; Barasa, 2021 Clague et al, 2023). Providing teachers with financial incentives and rewards – for example, through post-training certification – as well as clear opportunities for career mobility and progression can increase teachers' interest, motivation, and engagement in blended or online training and CPD courses (Arifin et al, 2022; Barasa, 2021 Clague et al, 2023).

3.1.5. Necessary conditions for the effective implementation of blended learning and CPD

To address the challenges mentioned in the section above, studies outline several necessary conditions that need to be in place for the effective implementation of blended or online learning and teacher CPD programmes to maximise participants' engagement. These include:

- Providing adequate training to trainers/moderators of blended or online courses
- Creating a supportive and engaging learning environment
- Ensuring the provision of adequate ICT resources, infrastructure, electricity and network connectivity
- Providing continuous support to participants
- Providing easily accessible material and resources
- Providing follow-up support to trainees
- Ensuring that teachers have protected time for their training and CPD
- Inviting teacher representatives to co-design and co-develop the training and CPD
- Providing incentives and rewards to teachers to participate in the training and CPD
- Ensuring the monitoring and evaluation of teacher training and CPD programmes.

Research suggests that the provision of **appropriate and adequate training to moderators and trainers** who deliver blended, or online learning course is essential to ensure the quality of training delivery and prepare them to effectively address technical or content-related issues that teachers might have (Amiruddin et al, 2022; Luvanda, 2023). Appropriate training and support to trainers/moderators can help to build a **positive, supportive**



and engaging learning environment

for teachers to interact with each other, and share learning and experiences, contributing to the effective implementation of blended or online learning (Amiruddin et al, 2022; Darawsha & Galia, 2020; Hennessy et al, 2022).

Since in-person interaction is not available in purely online learning, it is important for the course moderators to learn how to facilitate teacher interactions, and interpersonal relationships and build relationships of trust among participants in a digital environment (Amiruddin et al, 2022; Darawsha & Galia, 2020; Hennessy et al, 2022). This can be achieved, for example, through group activities, discussions, or projects, virtual coaching and mentoring activities, and the facilitation of continuous communication between training participants through social media platforms (Hennessy et al, 2022). Clague et al (2023, pp.13-14) refer to this element of blended learning as 'social presence', where participants 'interact meaningfully around a learning task', communicate with each other, share their experiences in a safe learning environment, identify themselves with the community and establish relationships of trust. Notably, a strong

'social presence' is closely associated with a strong 'teaching presence' – referring to the trainer's role in providing instructions, facilitating learning and discussions among participants – as well as a strong 'cognitive presence', referring to the importance of teachers' reflection during blended training and CPD (Clague et al, 2023, pp.13-14).

As such, the role of the trainer/moderator is crucial in providing instructions and support, encouraging teachers' reflection, and creating a supportive learning environment where trainees can interact through discussions and course activities. Technology can also play an important role in facilitating teacher interactions during and outside a blended learning course through, for example, the establishment of online Communities of Practice (CoPs) or Professional Learning Communities (PLCs) using social media platforms, where teachers can share learning, experiences, challenges and best practices with their peers concerning different pedagogical practices (Arifin et al, 2022; Hennessy et al, 2022).

That said, to ensure and maintain teachers' continuous engagement, participation, and interaction in the online elements of blended learning courses, it is crucial to



ensure that the necessary **ICT resources, facilities, and infrastructure are in place, alongside stable internet connection and electricity** (Arifin et al, 2022; Barasa, 2021; Clague et al, 2023; Harerimana, 2017; Luvanda, 2023; Mugiraneza, 2021; Uribe-Banda et al, 2023). For example, in many countries in SSA – Rwanda included – electricity cuts are very common in rural and remote areas (Zeitlin, & Bower, 2018). For this reason, reliable access to electricity and internet by participants is a key precondition for the success of any blended learning. Additionally, providing participants with enough time to test and pilot the digital tools and training resources and express any issues or concerns they might encounter before the start of the course can also contribute to the effective implementation of a blended or online learning course (Clague et al, 2023). In short, ensuring that all participants have access to digital resources and that any potential accessibility issues are resolved before the start of a blended or online learning course can maximise teachers' engagement and participation.

In addition to providing support before the start of any blended or online learning course, it is also important for trainers/moderators to offer **continuous support** throughout the learning course (Mugiraneza, 2021; Twagilimana & Mannikko-Barbutiu, 2018). This can take the form of technical support to teachers to effectively use digital tools and resources and improve their digital skills and literacy, but also support concerning ways in which teachers can incorporate and take advantage of the technological tools and resources into their teaching practices (Mugiraneza, 2021; Twagilimana & Mannikko-Barbutiu, 2018). For example, digital tools and platforms can be used to enhance student-centred pedagogical approaches and activity-based learning (Barasa, 2021). In the context of SSA and specifically in Rwanda, research suggests that the support provided to teachers to integrate ICT into their teaching practices can strengthen the students' learning outcomes in the country, promoting engaging and interactive learning experiences for students (Hennesy et al, 2022; UNICEF, 2024). However, to achieve that, it is essential to ensure that teachers have access to easily **accessible online material and resources** that would allow them to enhance their

pedagogical practices (Hennesy et al, 2022).

In addition to support before and during a blended or online training course, there are also real benefits from providing long-term support after training completion (Clague et al, 2023; Uribe-Banda et al, 2023). **Follow-up support and interventions** can allow teachers to continue practice and apply their skills and competencies, creating a continuous learning environment where teachers feel supported and motivated to engage in learning (Clague et al, 2023; Uribe-Banda et al, 2023). However, this requires ensuring that teachers have **dedicated and protected time** to engage in professional learning and development opportunities on a long-term basis, which may require releasing them from some work-related responsibilities so they can meaningfully engage and participate in training and CPD (Barasa, 2021; Clague et al, 2023). For example, in Rwanda the government has indeed taken steps to ensure that teachers have protected time for their professional development through the implementation of various policies outlined in detail in the subsequent section 3.3. Additionally, since one of the main barriers to teacher training and CPD attendance is finding time to join the online parts of a blended learning course and study after the completion of the sessions, it can also be beneficial for teachers to have allocated time slots within their working weeks to dedicate to their professional development (Barasa, 2021; Clague et al, 2023). Overall, it is crucial for designers and implementers of blended or online learning courses to consider how they can reduce the negative impacts of the course on teachers' time (Barasa, 2021). To achieve that, it is essential that implementers of teacher training and development programmes have the necessary resources and infrastructure to conduct the training which are primarily supported by public funding (Barasa, 2021). This would allow them to better support teachers to attend and participate in the blended or online learning by prioritising their needs and the time that they have available (Barasa, 2021).

Lastly, evidence suggests that during the design of a blended or online teacher training or CPD programme, it can be beneficial to invite **teacher representatives to co-design and co-develop the CPD programmes**





(Barasa, 2021; Clague et al, 2023; Hennessy, et al, 2022; Mitchell et al, 2024). Teachers' involvement in the design and development of blended or online training and CPD programmes is important to ensure the different aspects of the training (e.g. course content, structure and activities) are relevant to teachers' interests and needs (Barasa, 2021; Clague et al, 2023; Hennessy, et al, 2022; Mitchell et al, 2024). Ensuring teachers' active involvement and agency in the design of blended CPD programmes can further enhance their motivation in learning, and better their understanding of the benefits of a blended learning approach (Clague et al, 202; Twagilimana & Mannikko-Barbutiu, 2018). Furthermore, as suggested in the previous section, the provision of incentives and rewards, such as financial incentives, certifications after the completion of a course, or rewards related to career mobility and progression can further increase teachers' engagement in blended or online learning (Arifin et al, 2022; Clague et al, 2023). Finally, **monitoring and evaluating** the impact of blended or online teacher training programmes on teachers' knowledge and skills, their ability to apply their learnings from the training in the classroom, and the impact of teacher training on students' learning are essential to sustain the impact of blended or online learning courses in the longer run (Hennessy et al, 2022).

3.1.6. Equity and Inclusion in blended learning and CPD

This section explores the challenges that women teachers (WTs) and teachers with disabilities (TWDs), especially in the context of SSA, often face when participating in blended or remote learning courses, and the necessary conditions that need to be in place to support equal access and engagement in learning. Designers of blended or online learning courses often ignore or fail to recognise the experiences of WTs and TWDs, the challenges they face and the additional support they might need to effectively participate in CPD, which can lead to lower participation and worse outcomes for these groups.

Challenges faced by women teachers

In addition to all the challenges mentioned in section 3.1.4, WTs face additional barriers when participating in blended or online training and CPD programmes. Specifically in Rwanda, evidence shows that women school leaders are underrepresented as participants and beneficiaries of in-service training and CPD (74%), compared to men school leaders (88%) (Laterite, 2023).

Although progress has been made in several SSA countries, Rwanda included, in promoting gender equity and inclusion, there are still deep-rooted perceptions around the role of women as child carers and as having responsibility for the household (Mitchell et al, 2024). **Such disproportionate childcare and household responsibilities** which many WTs face, often as sole childcare providers in their households (Joseph, 1999), is a common barrier to their participation in blended or online learning (Mitchell et al, 2024). In part, this is due to blended or online training and CPD programmes often taking place outside normal working hours – e.g. after the school day is over, on weekends or during holidays – making it challenging for WTs, who are often time poorer (Kes and Swaminathan, 2006), to attend due to childcare and household responsibilities, and overall difficulties in balancing heavy professional and domestic workloads (Mitchell et al, 2024; Care and Udod, 2000; Joseph, 1999). For example, a study exploring the use of computers and the internet available to schools in Rwanda to enhance teachers' ICT skills and CPD found that WTs were the ones who faced the most challenges in using digital tools and who requested the most additional ICT and technical support (Ndayambaje & Ngendahayo, 2014). The study also found that this was likely due to women teachers' shortage of time to learn how to use digital tools due to their heavy family and household responsibilities (Ndayambaje & Ngendahayo, 2014).

Another barrier to WTs' participation in blended or remote learning courses is the **lack of or inadequate learning ICT tools, materials and resources** available to them (Laterite, 2023;

Opini, 2012). Findings from a study exploring the engagement of STEM teachers and school leaders in CPD during COVID-19 indicate that in Rwanda only 49% of women STEM teachers had access to computers and digital resources after the schools reopened, compared to 60% of men STEM teachers (Laterite, 2023). When it comes to blended learning and CPD, research shows that women participants often face **challenges in transportation** to the venues where the face-to-face sessions take place (Mitchell et al, 2024). In the context of SSA, this is often because it is less safe for women participants to travel and commute to the training venues, especially for those living in rural and remote areas, due to limited transportation facilities and infrastructure (Mitchell et al, 2024). Additionally, the high cost of transportation to training venues (which can be far away from where trainees live) can be an additional barrier to WTs' participation in the in-person sessions of a blended course (Mitchell et al, 2024).

Challenges faced by teachers with disabilities

Like women teachers, many teachers with disabilities (from all genders) also face additional challenges in accessing and participating in CPD to those highlighted in section 3.1.4. One such challenge is the **lack of access to ICT resources and infrastructure and lower ownership of ICT devices**. A study which explored the challenges to the participation of women with disabilities in higher education in Kenya found that there was a general lack of appropriately adapted learning materials, resources and support for teachers with physical impairments, such as Braille books and materials, or sign language interpreters to support the participation of blind and deaf university students (Opini, 2012). This indicates that the design of education, training and CPD programmes often overlooks TWDs' needs and interests (Care and Udod, 2000; Opini, 2012).

Challenges in transportation – referred to in the previous sub-section – were also reported by university women students with disabilities in Kenya, where the combination of the lack of physical access to university venues such as libraries and the inadequate transportation services made it challenging for them to attend university courses (Opini, 2012). The findings of the study also show that women with disabilities in Kenya faced additional challenges in accessing university-level courses, such as disproportionate **poverty, lack of financial support, increased risks of sexual abuse and harassment, as well as discrimination** arising from pursuing higher education studies (Opini, 2012). However, there is a limited number of studies exploring women teachers and women with disabilities' perceptions and experiences of blended or online learning in countries in SSA. The examination of intersectional challenges that women teachers with disabilities (WTWDs) face in blended or remote forms of learning and CPD can further support the design of training programmes which are appropriately tailored and adapted to their needs and interests.

Potential support mechanisms

The review of the academic literature indicates that there are various ways to support teachers from marginalised groups, namely women, people with disabilities and/or learning difficulties, and those living in remote and rural areas. **Guaranteeing equal access to digital facilities, infrastructure, internet connectivity and resources** is important to ensure equal participation of women teachers and those with disabilities in blended or online learning and CPD programmes (Hennessy et al, 2022, Zeitlin, & Bower, 2018). Notably, however, such provision of additional ICT resources and materials to marginalised groups of teachers often requires **additional costs**, so this should be taken into account at all stages of blended CPD programme design and implementation (Hennessy et al, 2022).



Furthermore, a study focused on exploring barriers to women's participation in distance learning found that one way to overcome those challenges is through ICT training and the provision of continuous technical support (Care and Udod, 2000). Blended learning programme designers should adopt inclusive programme design approaches, by proactively developing support strategies to help participants from marginalised groups and designing training programmes with their needs in mind. This is crucial given that one-size-fits-all approaches to programme design can exacerbate existing educational inequalities faced by marginalised groups in terms of training access and participation (Hennessy et al, 2022).

When it comes to TWDs and learning difficulties, **differentiating and adapting learning materials and resources** to address their needs and providing individualised and personalised support is considered a critical factor in promoting equity and inclusion in blended or online CPD courses (Darawsha & Galia, 2020; Hennessy et al, 2022). This can be achieved, for instance, by providing books and resources in Braille to visually impaired trainees, making the necessary adjustments to a training course's content and activities, and presenting the course's content in different ways (Opini, 2012; UNICEF, 2021). More specifically, there is a number of assistive software, such as Job Access With Speech (JAWS) software which can be installed on a personal computer, or a laptop and it can provide speech or Braille output from screen content to support VITs and students.⁵ An evaluation of the JAWS software at a Basic Education School for blind and deaf students

in Ecuador found that the software led to the improvement of the teaching and learning process and improved teachers skills (Rios et al, 2016). For learners with Special Needs and Disabilities (SEND), this can be achieved by adopting different pedagogical/training strategies and offering individualised and personalised support where possible so as to tailor the training delivery to different learners' needs (Darawsha, & Galia, 2020, AL-Azzam et al, 2023). As highlighted in the Convention of the Rights of Persons with Disabilities (CRDP), these practices constitute 'reasonable accommodation' and consist of ensuring the 'necessary and appropriate modification and adjustments not imposing a disproportionate or undue burden, where needed in a particular case, to ensure to persons with disabilities the enjoyment or exercise on an equal basis with others of all human rights and fundamental freedoms' (United Nations, 2008). Notably, it is important that, for blended training courses, training designers and providers ensure that both aspects of the training – both the face-to-face and the online sessions – are easy to access for TWDs to ensure the inclusion of all participants (Clague et al, 2023).

Although blended learning usually provides a flexible learning environment for participants, it is important that programme designers consider WTs' childcare and household responsibilities and arrange the online sessions of the training programme during **a time that is convenient for them to attend** (Joseph, 1999). Additionally, research shows that often WTs would like to receive more **flexible training** and CPD opportunities which would allow them to balance their family, household

⁵ Job Access With Speech (JAWS) software. Available at: <https://www.freedomscientific.com/products/software/jaws/>



education and employment responsibilities, and make progress at their own pace in the form of long-term CPD (Care and Udod, 2000; Joseph, 1999). Care and Udod (2000) highlight that WTs prefer to participate in a learning environment where there is a recognition of everyone's personal experiences and where collaboration, dialogue and interaction are key approaches to learning. Through these learner-centred approaches, women participants can feel encouraged, motivated and empowered to participate in distance learning courses where they share learning and experiences in a safe and supportive learning environment (Care and Udod, 2000).

3.2. Sub-Saharan Africa: Examples of blended or online CPD programmes for teachers in the region

This section provides an overview of select blended or online CPD programmes in SSA, so that the STELIR course can be understood in the context of other initiatives in the region. It briefly describes examples of blended or online teacher training and CPD initiatives in SSA focused on supporting teachers in developing their ICT skills and literacy and facilitating the integration of ICT into teaching and learning practices in primary and secondary schools. More specifically, it describes the following initiatives in SSA:

- General Education Quality Improvement Programme (GEQIP) Ethiopia
- Digital Literacy Programme Kenya
- Teacher Education Support Project (TESP) Tanzania.

3.2.1. General Education Quality Improvement Programme (GEQIP) Ethiopia

The General Education Quality Improvement Programme (GEQIP) was a two-stage programme focused on three key aspects: improving internal efficiency, improving the quality of general education (including the quality of teaching and learning), and ensuring equitable access of all students, especially girls and SEND students, in pre-primary, primary and secondary schools in Ethiopia. The first stage of the project (GEQIP I) was launched in 2009 and concluded in 2013. The programme was implemented with the support of the World Bank in collaboration with other donor organisations and government agencies, such as USAID (World Bank, 2020).

The second stage of the project, GEQIP II, became effective in February 2014 and was planned to end in July 2018. It was designed around six main components namely: curriculum textbooks, assessment, examinations and inspections; Teacher Development Programme; School Improvement Plan; Management and Capacity Building including the Education Management Information System (EMIS); improving the quality of learning and teaching using ICT; and programme coordination, monitoring and evaluation and communication (World Bank, 2020). The second stage of the programme was completed in 2020.

Regarding pre-service and in-service teacher education, training and CPD, the Teacher Development Programme which was part of the GEQIP II aimed to strengthen the training for pre-service teachers, providing teaching, and learning materials to teacher education institutions in Ethiopia, offering training around pedagogical approaches to in-service teacher educators, and supporting the provision of more teacher CPD opportunities in schools. More specifically, the Teacher Development Programme of the GEQIP II aimed at strengthening the use of English language by pre-service teachers in teacher training institutions, as well as the use of English language by in-service teachers by offering English language training for English teachers and developing a group of school-based English mentors to support all teachers using English as a medium of instructions in schools in the country (World Bank, 2020).

In terms of ICT in education, GEQIP II focused on the provision of ICT facilities and infrastructure in secondary schools and universities in Ethiopia and contributed to the development of an e-learning system, targeting the training and CPD of teachers and school leaders. More specifically, the second stage of the project aimed to develop e-cloud infrastructure, supporting the development of an independent ICT in education agency. Additionally, the programme provided e-learning for 300 secondary schools and 10 teacher training institutions in Ethiopia. The e-learning system allowed teachers and students to access digital and online content, resources, and materials (Barasa, 2021; World Bank, 2020). Therefore, the GEQIP II focused on providing resources and infrastructure to strengthen the education system in Ethiopia following the activities conducted as part of GEQIP I, with the additional focus on ICT.

Following the completion of GEQIP II in 2020 and the onset of the Covid-19 pandemic, the World Bank launched the follow-up programme named GEQIP-Equity (GEQIP-E, April 2018 – January 2024) which kept the focus of the GEQIP I and GEQIP II but put more emphasis on the improvement and enhancement of equitable access of all children to general education. More specifically, the programme aims to 'improve gender equality in upper primary education, increase the participation in schooling in pastoralist woredas and emerging regions, and inclusive education in primary and secondary schools'.⁶ However, recent studies exploring the contribution and impact of GEQIP II and GEQIP-E show that the ICT budget for the GEQIP-E was reduced because of a procurement delay of over two years which affected the implementation schedule of the GEQIP II (Jang, 2024). For this reason, the GEQIP-E focused on assessing the ICT policies and developments rather than implementing new ones (Jang, 2024). Findings from a study exploring the different factors which impede the ICT integration in secondary schools in

Ethiopia showed there are still ICT related issues experienced by teachers and students in the country. More specifically, the study found that the Plasma TV installation and the provision of digital education content which should have been completed as part of GEQIP II, was found to be missing in 2021 (Jang, 2024). Overall, the study found that students and teachers in the country still experience a number of ICT related issues including unstable internet connection, lack of adequate teacher training on ICT, resistance in incorporating technology in the classroom practices and insufficient ICT material and resource (Jang, 2024).

3.2.2 Digital Literacy Programme Kenya

In 2016, the Ministry of Information, Communication and Technology in Kenya launched the Digital Literacy Programme (DLP) which aimed to equip schools with the necessary ICT facilities, resources and infrastructure and support teachers in incorporating ICT into their teaching and learning practices in public primary schools in the country (Barasa, 2021; Luvanda, 2023). More specifically, the programme aimed to distribute digital tools and devices to students and teachers at public primary schools in Kenya, as well as provide ICT training to in-service teachers to enhance their digital skills and literacy. The ultimate objective of the DLP was to support in-service teachers in integrating ICT into their teaching and learning pedagogical approaches and training them to deliver digital and online content to their students (Barasa, 2021; Luvanda, 2023). The project consisted of four components: strengthening the ICT facilities and infrastructure in the education system in Kenya, developing digital content for primary schools, strengthening the capacity of teachers in using ICT in teaching and learning, and distributing digital devices, such as laptops to

⁶ World Bank. Ethiopia General Education Quality Improvement Program for Equity. Available at: <https://projects.worldbank.org/en/projects-operations/project-detail/P163050>

public primary schools in the country (Barasa, 2021).

More specifically, the DLP included three phases. The first phase of the programme – named ‘Learning to Use’ – was completed in 2019 and placed emphasis on supporting teachers and students to use digital tools and devices. The second phase, which started in 2019 and was named ‘Using to Learn’, sought to distribute digital tools and devices to schools, establishing computer labs and digital learning centres in all public primary schools and developing cloud infrastructure for accessing online content and digital curriculum (Barasa, 2021; Government of Kenya, 2016; Government of Kenya, 2018). The third and final phase of the project – named ‘Using to Produce’ – will aim to support teachers in using technology to create and innovate (Barasa, 2021). According to the data provided by the Kenyan Ministry of Information, Communications, and the Digital Economy, so far, there are over 75,000 teachers in primary schools in Kenya who have been trained in using digital technologies.⁷

Findings from the first phase of the project published in 2018 indicate that, as a result of the DLP, a total of 22,675 primary schools were connected to electricity, and the programme led to the development of digital curriculum content for primary school classes 1, 2 and 3 (Government of Kenya, 2018). Additionally, the programme enabled the training of national ICT champions to become trainers of basic ICT skills and literacy (Government of Kenya, 2018). Furthermore, following the implementation of the first phase of the programme, teachers reported that they observed changes in students’ learning, a reduction in student absenteeism and the creation of a fun, engaging and experiential learning environment (Barasa, 2021). The programme also contributed to the capacity building of teachers in using digital resources and devices (Barasa, 2021). However, there were several challenges which impeded the implementation of the DLP, including the instability or lack of network connectivity, lack of data bundles, theft of digital devices, lack of secure spaces

to store digital devices as well as issues around the maintenance of devices (Barasa, 2021).

3.2.3 Teacher Education Support Project (TESP) Tanzania

In 2017, the Government of Tanzania – in partnership with the Government of Canada – launched the five-year programme named Teacher Education Support Project (TESP). The programme aimed to reinforce and improve teacher education in Tanzania by providing training to pre-service primary and secondary school teachers to support them with practising gender-sensitive teaching, improving the ICT facilities and infrastructure and providing digital and online textbooks and other learning material and resources to 35 public teacher training colleges in Tanzania⁸ (Barasa, 2021; Government of Canada, 2022; Swai et al, 2022). The project also focused on improving the skills of 3,000 college instructors and training 50,000 teachers studying in 35 teaching training colleges in Tanzania (Government of Canada, 2022).

A December 2022 review showed that the project provided had, by that point, provided 196,027 books to 35 teacher colleges and 593 teaching or learning aids for students with different learning needs to three teacher colleges. Additionally, 4,586 pre-service teachers (including 2,829 male and 1,757 female teachers) had participated in professional development sessions in their area of specialisation and 1,343 pre-service teachers (734 male and 609 female teachers) had been trained on using ICT as a pedagogical tool (Government of Canada, 2022). A study exploring the pre-service teachers’ and tutors’ satisfaction with college facilities and infrastructure that were developed following the TESP project found that pre-service teachers and tutors found the programme had led to the improvement of teaching and learning practices in teaching colleges in Tanzania. More specifically, the findings of the study show that both pre-service teachers and tutors expressed their satisfaction in the

⁷ Government of Kenya. Ministry of Information, Communications and The Digital Economy. Digital Literacy Programme (DLP). Available at: <https://ict.go.ke/digital-literacy-programmedlp/>

⁸ Government of Canada. (2022) Project profile — Teacher Education Support Project. Available at: <https://w05.international.gc.ca/projectbrowser-banqueprojets/project-projet/details/d000252001>

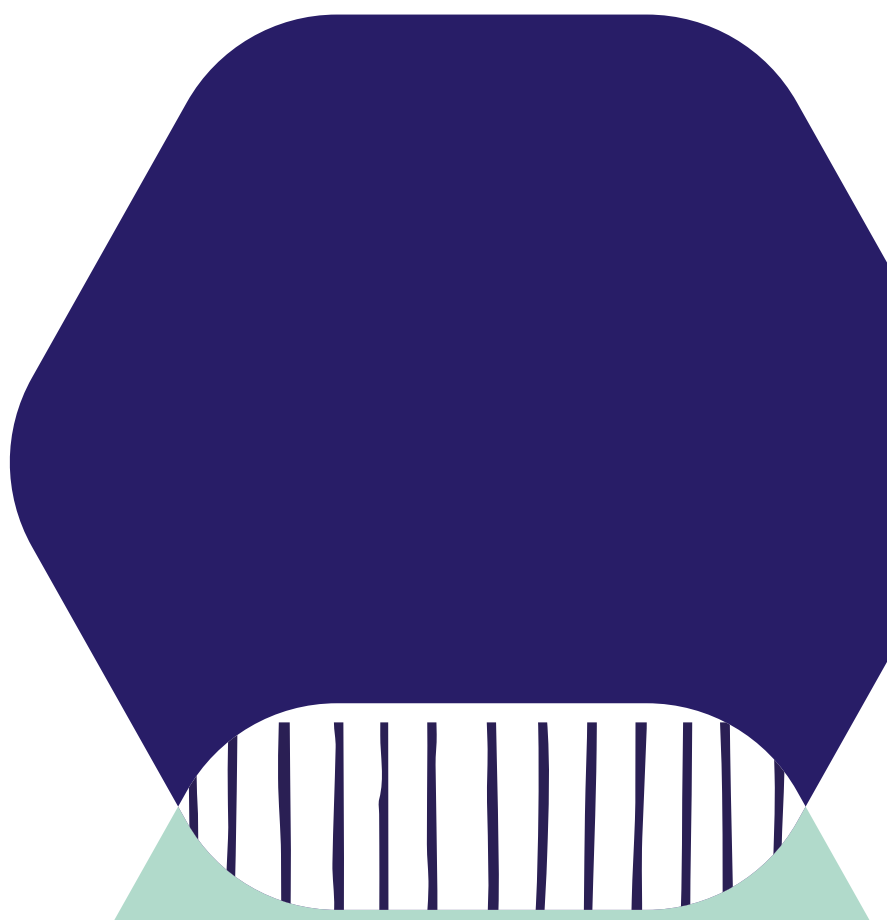
ICT infrastructure, resources, and learning materials provided to the teaching colleges for the purposes of the programme (Swai et al, 2022).

Overall, there have been some blended and online teacher training and CPD initiatives in SSA which have aimed to develop teacher digital skills and literacy, increase their confidence in using those ICT tools for their own professional development but also raise their awareness about how ICT resources can be used to enhance their teaching and learning practices.

3.3 Rwanda: The education policy context

Overall, providing a high standard of education is a clear priority for Rwanda. For instance, Rwanda's Vision 2020, the more recent Vision 2050 and the SMART Rwanda Masterplan (2020) each highlight investment in and improvements in education as a means to develop a more skilled workforce to transform Rwanda into a knowledge-based economy.⁹ This is closely aligned to the ambition of the Government of Rwanda to improve Rwanda's low human index. The following section aims to provide a more detailed description of the policy landscape in Rwanda, with a specific focus on policies related to teacher education and training, ICT in education and equity and inclusion.

⁹ World Bank (2020). Human Capital Project. Human Capital Index 2020. https://databankfiles.worldbank.org/public/ddpext_download/hci/HCI_2pager_RWA.pdf



The table below provides an overview of the Rwandan policies around the themes of teacher training and development, ICT in education, equity and inclusion and Medium of Instruction listed in chronological order.

Year	Policy	Policy Description	Theme			
			Teacher education	ICT in Education	Equality and inclusion	Medium of Instruction (MOI)
2000	Rwanda Vision 2020	A key objective of Rwanda's Vision 2020 is the transformation towards a knowledge-based economy. Strategies to support this include investing in education, health, and ICT to create a skilled workforce. Further cross cutting issues of Vision 2020 include gender equality and ICT use in various sectors.	●	●	●	
2003	The Education Policy	This policy aimed to address inequalities and inefficiencies in the education sector, focusing on promoting equity, quality and accessibility. Among others, some of the key objectives of this policy include enhancing teacher training and the professional development of teachers. The teaching of ICT is also emphasised.	●	●	●	
2003	The Constitution of the Republic of Rwanda	This constitution specified Kinyarwanda, French and English the official languages of Rwanda. Title II Article 40 of the constitution specified that Kinyarwanda should be used for the first cycle of primary (1-3), and that either French or English may be used for the second cycle.				●
2007	Teacher Development and management policy	This policy aimed to improve teaching standards in primary and secondary schools in Rwanda through the provision of professional guidelines and pathways for professional development (Republic of Rwanda, 2007b). This included establishing a programme of CPD and distance learning.	●			
2007	The National Learning, Teaching, And Assessment Policy	This policy provides a framework to guide the enhancement of student learning in Rwandan HEIs. Alongside other objectives, this policy emphasis teacher training and ongoing professional development, the integration of ICT into teaching and learning as well as inclusivity in education (Republic of Rwanda, 2007a).	●	●	●	
2007	Special Needs Education Policy	The policy aims to ensure equitable access to quality education for all learners, particularly those with disabilities and special educational needs (Republic of Rwanda, 2007c).			●	

Table 2: Referencing of the qualitative data throughout the report

Year	Policy	Policy Description	Theme			
			Teacher education	ICT in Education	Equality and inclusion	Medium of Instruction (MOI)
2008	One Laptop Per Child Policy (OLPC)	This policy advocates the provision of a laptop to every primary school student to facilitate improved digital literacy and an enhanced educational experience. The policy also focused on teacher training to effectively integrate ICT (Rwanda Basic Education Board, 2008).		●		
2008	Girls Education Policy.	The policy aimed to enable the promotion of gender equality in education through the elimination of gender disparities.			●	
2008	Statement on Cabinet Decisions of 8 October 2008	The Rwandan Government implemented English as the MOI at all levels of education except for lower primary, where the medium of instruction is Kinyarwanda.				●
2016	ICT Education Policy.	This policy aimed to promote ICT as a means to further access, equity and quality of education. Some specific goals include increased ICT usage at all education levels, alongside increased capacity and capability of educators with regards to ICT use (Republic of Rwanda, 2016).		●		
2016	Implementation Framework for ICT in Education.	This framework outlines proposed strategies to establish curriculum relevant digital content, improved infrastructure, increased use of ICT and the training of educators in ICT. The latter strategies include regular ICT training for in-service teachers, and for ICT integration within pre-service teacher training (Republic of Rwanda, 2016).		●		
2018 /19	Education Sector Strategic Plan (ESSP)	The plan aims to promote enhanced and equitable access and quality of education and strengthen the relevance of education to meet labour market needs. Some relevant strategic priorities to achieve this include strengthened CPD and management of teachers, enhanced teaching and use of ICT in education; and equitable opportunities for children (Republic of Rwanda, 2018).	●	●	●	
2018	Revised Special Needs and Inclusive Education Policy	The general objective of this policy includes implementing coordinated and well-resourced special education services which underpin education sector goals and national strategies. Included within this is the development of support services, capacity building of educators, improved teaching and learning resources and the promotion of inclusive and child-centred approaches. The policy also emphasises the role of teachers' CPD around inclusive pedagogy (Republic of Rwanda, 2018).			●	

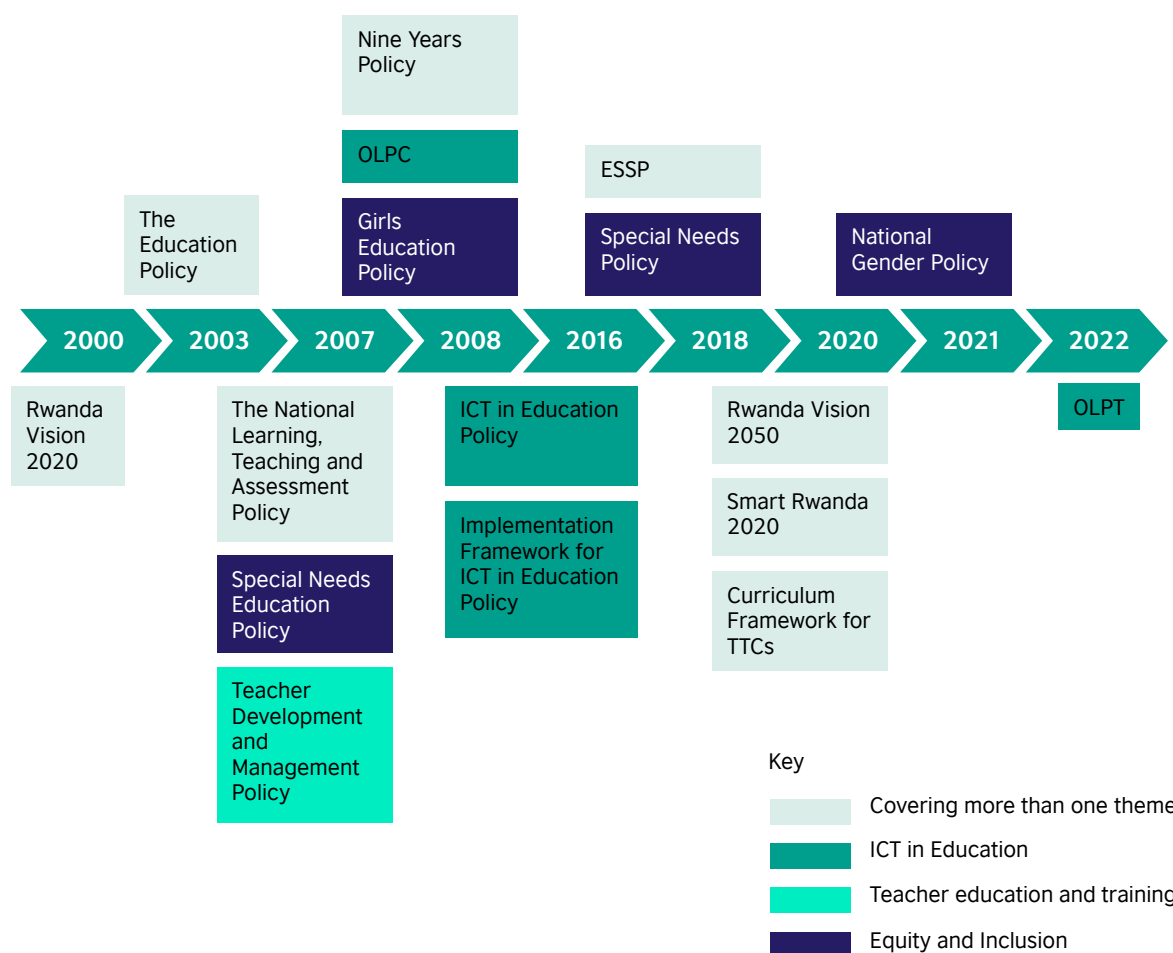
Table 2 (continued): Referencing of the qualitative data throughout the report

Year	Policy	Policy Description	Theme			
			Teacher education	ICT in Education	Equality and inclusion	Medium of Instruction (MOI)
2020	Rwanda Vision 2050	The policy highlights investment in and improvements in education as a means to develop a more skilled workforce to transform Rwanda into a knowledge-based economy (World Bank, 2020).	●	●	●	
2020	Summary of Curriculum Framework for Teacher Training Colleges (TTC)	The TTC curriculum framework aims to enhance teaching and learning in pre-service teacher education. The curriculum is guided by principles of learner centredness, a competency-based approach, inclusivity and ICT as a tool.	●	●	●	
2020	SMART Rwanda 2020	The overarching goal of SMART Rwanda is to facilitate the transition to a knowledge-based economy, focusing on digital transformation. One of the core objectives of this policy is harnessing ICT in education to enhance teaching and learning.		●		
2021	Revised National Gender Policy	The policy aims to address gender gaps across sectors with a view to improving gender equality, increasing women's access to economic resources and opportunities; and reducing gender-based violence and discrimination.			●	
2021	National Policy of Persons with Disabilities and Four Years Strategic Plan (2021-2024)	This policy intends to promote the full inclusion and participation of people with disability in Rwandan society. The policy sets out priorities for addressing issues of disability, and promotes an inclusive, barrier-free, and rights-based society.			●	
2022	One Laptop Per Teacher policy	This policy aims to redesign laptop acquisition and encourage device ownership through a loaning scheme. The objective is to empower teachers to teach using computers to improve teaching standards. In addition, device ownership was proposed to support teachers to follow online or blended training programmes. It is estimated that 1 in 5 teachers will have laptops by 2022.		●		
2024	Foundational Learning Strategy 2024/25-2028/29	This strategy launched by the Ministry of Education aims to support the development of all foundational literacy and numeracy skills for all children in Rwanda from pre-primary to lower primary levels. The strategy presents a five-year plan to achieve specific targets for all children across reading fluency and comprehension in Kinyarwanda and English and numeracy proficiency. Additionally, the strategy sets five main priorities: improving instructional quality through teacher development and support, implementing an evidence-aligned foundational skills curriculum, providing effective teaching and learning materials in sufficient volumes to all teachers and students, mobilising parental and community support for foundational learning, and strengthening systemic quality assurance and performance management.	●			●

Table 2 (continued): Referencing of the qualitative data throughout the report

The figure below outlines the timeline of those relevant national policies in relation to the three themes of teacher education and training, ICT in education and Equity and Inclusion, launched in Rwanda between 2000 and 2022.

Figure 3: Timeline of Rwanda's education policies in relation to the three themes of teacher education and training, ICT in education and equity and inclusion



3.3.1 Teacher training and development

Many policies implemented in Rwanda highlight teacher training and development as a strategic priority and as a means to improve the overall quality of education in the country. Multiple policies specifically highlight distance learning as a way to provide CPD to teachers. For example, the Education Policy (2003) proposed to enhance the quality of education by improving pre-service and in-service teacher training using distance learning.¹⁰ Subsequently, in 2007, the Teacher Development and Management Policy aimed to improve teaching standards in primary and secondary schools in Rwanda through the provision of professional guidelines and pathways for professional development.¹¹ This included establishing a programme of CPD and distance learning. The National Learning, Teaching and Assessment Policy (2007) introduced in the same year similarly aimed to improve the quality of teaching and assessment within HEIs, with opportunities for staff development being a key facilitator.¹²

Strengthened professional development of teachers is accordingly one of the strategic priorities of the current Education Sector Strategic Plan (ESSP) (2018/19 to 2023/24).¹³ Later efforts to improve pre-service teacher education include the introduction of a competency-based curriculum for teacher training colleges in 2020.¹⁴ Policies targeting teacher education and training have therefore focused on different education stages, as well as on both pre-service and in-service teachers.

Efforts have typically involved enhancing pre-service teacher education, encouraging in-service teachers to develop their skills and abilities, and providing opportunities for CPD, specifically including remote learning.

3.3.2 ICT in education

The Education Policy (2003) highlighted the role of ICT in education, focusing on the teaching of ICT at all levels as well as promoting performance in ICT. This is to be facilitated by ensuring teachers are sufficiently skilled and that schools are sufficiently resourced with ICT infrastructure and resources.¹⁵ This policy was followed by the One Laptop Per Child Policy (OLPC) in 2008 which advocated the provision of a laptop to every primary school student, with a view of facilitating improved digital literacy and an enhanced educational experience. The policy also focused on teacher training to effectively integrate ICT in their teaching practices.¹⁶ An overarching ICT in Education Policy (2016) was then introduced, aiming to enhance access to education. More specifically, some of the goals of this policy included the increased ICT usage at all levels, alongside increased capacity and capability of educators with regards to ICT use.¹⁷ The corresponding Framework for ICT in Education (2016) outlines how this is to be achieved. The proposed strategies include establishing curriculum relevant digital content, improved infrastructure, increased use of ICT and the training of educators in ICT. The latter strategies include regular ICT training for in-service teachers, and for ICT integration to be included within pre-service teacher training.¹⁸

¹⁰ Republic of Rwanda. Ministry of Education, Science, Technology and Scientific Research, (2003). Education Sector Policy.

¹¹ Republic of Rwanda. Ministry of Education. (2007). Teacher Development and Management Policy in Rwanda.

¹² Republic of Rwanda. Higher Education Council. (2007). National Learning, Teaching and Assessment Policy.

¹³ Republic of Rwanda. Ministry of Education. (2018). Education Sector Strategic Plan 2018/19 to 2023/24.

¹⁴ Rwanda Education Board. (2020). Competence-based Curriculum. Summary of Curriculum Framework for Teacher Training Colleges.

¹⁵ Republic of Rwanda. Ministry of Education, Science, Technology and Scientific Research, (2003). Education Sector Policy.

¹⁶ Rwanda Basic Education Board. (2008). One Laptop Per Child (OLPC). Available at: <https://www.reb.gov.rw/olpc>

¹⁷ Republic of Rwanda. Ministry of Education. (2016). ICT in Education Policy.

Correspondingly, a key strategic priority of the current Education Sector Strategic Plan (ESSP), which was introduced in 2018 (2018/19 to 2023/24), is leveraging ICT to transform teaching and learning and to improve the quality of education at all levels. A further priority is the enhancement of school infrastructure and facilities.¹⁹ The Curriculum Framework for Teacher Training Colleges (2020) similarly included the integration of ICT in TTCs as a core principle. The proposed curriculum aimed to enable educators and students to use ICT to improve the quality of education.²⁰ The SMART Rwanda Masterplan (2020) focused on utilising ICT for education to enhance teaching and learning as a mechanism for the broader goal of economic growth. Further strategies outlined in this policy include enhanced access to ICT for teachers

and students.²¹ One Laptop Per Teacher Policy (2022) involved enabling all basic education teachers to own a laptop, premised upon this supporting the use of computers for an improved standard of teaching. In addition, device ownership was proposed to support teachers to follow online or blended training programmes.²²

Overall, ICT is viewed as a means to improve teaching and learning as well as the overall quality of education. Many policies are centred around up-skilling teachers in ICT as well as ICT-integrated pedagogies. Various policies specifically refer to a shift in teaching and learning to a more student-centred approach alongside the integration of ICT. Other focuses include improved access to technology.

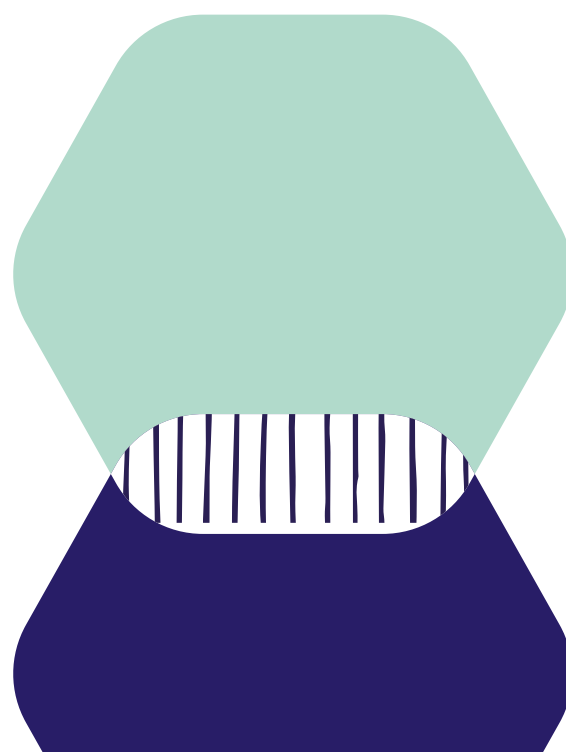
¹⁸ Republic of Rwanda. Ministry of Education. (2016). Implementation Framework for ICT in Education.

¹⁹ Republic of Rwanda. Ministry of Education. (2018). Education Sector Strategic Plan 2018/19 to 2023/24.

²⁰ Rwanda Education Board. (2020). Competence-based Curriculum. Summary of Curriculum Framework for Teacher Training Colleges.

²¹ Republic of Rwanda. (2015). SMART Rwanda Master Plan.

²² Rwanda Basic Education Board. (2022). Concept Note on One Laptop Per Teacher.



3.3.3 Equity and inclusion

The Education Policy (2003) includes addressing disparities in education as one of its main goals. This entails ensuring the continuation of current achievements of vulnerable groups and strengthening their performance in key areas (namely Science, Mathematics and Technology). Strategies to achieve this include monitoring and addressing performance of vulnerable groups to take mitigating measures, as well as encouraging participation and performance in those.²³ The National Learning, Teaching and Assessment Policy (2007) references the promotion of equality through the development of an inclusive learning environment.²⁴ Additionally, the Special Needs Education Policy (2007) and the Girls Education Policy (2008) are both aimed at minimising barriers to equitable access to, quality and retention/completion of education for SEND students and girls respectively.²⁵

Guaranteeing equitable opportunities for all Rwandan children and young people at all education levels is a priority stated in the current ESSP (2018/19 to 2023/24).²⁶ The Updated Special Needs Policy (2018) expanded upon the previous policy, and further included the development of support services, capacity building of educators, improved teaching and learning resources and the promotion of inclusive and child-centred approaches. In addition, the policy emphasises the role of CPD of teachers in the area of inclusive pedagogy.

²⁷ Correspondingly, the curriculum framework for teacher training colleges (2020) highlights the role of inclusiveness as one of the core principles, stipulating that the curriculum should be organised in a way that is inclusive for all student teachers, including those with disabilities or special educational needs.²⁸

Rwanda also has a Revised National Gender Policy (2021) aimed at addressing gender gaps across sectors with a view to improving gender equality, increasing women's access to economic resources and opportunities; and reducing gender-based violence and discrimination. More specifically, one of the priority areas of the policy is the continuation of the promotion of equality and equity in education, health and social protection sectors, with the specific policy objective of improving gender equality across these sectors.²⁹ As a result, it is evident that gender equity is a policy priority for the Rwandan Government, which is actively seeking to promote gender equity in education and other sectors by challenging historically founded and socially constructed gender stereotypes.

Therefore, it is evident that there are several policies in Rwanda which highlight the importance of teacher CPD and its positive impact on students' learning, the role of ICT in education towards the creation of engaging and enjoyable learning settings, the need for promoting equity and inclusion in both teacher education and training as well as students' learning to accommodate the needs of women and those with disabilities.

²³ Republic of Rwanda. Ministry of Education, Science, Technology and Scientific Research, (2003). Education Sector Policy.

²⁴ Republic of Rwanda. Higher Education Council. (2007). National Learning, Teaching and Assessment Policy.



3.3.4. Medium of Instruction (MOI)

Language education policies was another way to improve the quality education in Rwanda. The language education policies in Rwanda changed multiple times since 1962, when the country become independent from Belgium and French became the predominant language of instruction, used for all grades except 1-3, which were taught in Kinyarwanda (Pearson, 2014). In 1978, the Ministry of Education (MINEDUC) extended primary education to include the first eight year of schooling, with Kinyarwanda being the MOI for all eight years. In 1991, after a nationwide exam revealed poor overall French language ability among students, MINEDUC announced a transition to the previous system. In 1996, MINEDUC announced a second reform.

In the following year (1997), Kinyarwanda would continue as the MOI for grades 1–3; both French and English would become the MOI for grades 4–P; and depending on which secondary school one attended, the MOI would be either French or English. In 2003, the new Constitution of Rwanda specified that Kinyarwanda would be used for the first cycle of primary, and French or English would be used for the second cycle. In 2008, the Government of Rwanda announced that English will be the MOI at all levels of education starting from upper primary school (Pearson, 2014; UNICEF, 2017).

However, since 2019, the Government of Rwanda decided to replace Kinyarwanda with English as the MOI in all schools starting from the first year of primary schools (Republic of Rwanda, 2024). Therefore, since 2019, English is the only MOI in the Rwandan education system.³⁰ The Foundational Learning Strategy 2024/25-2028/29 highlights that the implementation of this MOI policy has set many challenges to teachers and students and for this reason teachers in Rwanda need ‘sufficient fluency in English; they also need good subject matter knowledge, continuing professional development and support, and access to tools and material resources’ (Republic of Rwanda, 2024, p.8). According to data from 2018 presented in the strategy, it is evident that only 38% of teachers in P1-P3 had sufficient fluency to teach in English and classroom observations conducted in 2022 indicate that English is not always used as the MOI by teachers and students in the classroom (Republic of Rwanda, 2024). To address these challenges, the strategy suggests that teachers’ and school leaders’ Communities of Practice (CoPs) are established as a method to support teachers’ learning and professional development (Republic of Rwanda, 2024).

²⁵ Republic of Rwanda. Ministry of Education. (2007). Special Needs Education Policy.; Republic of Rwanda. Ministry of Education, (2008) Girls’ Education Policy.

²⁶ Republic of Rwanda. Ministry of Education. (2018). Education Sector Strategic Plan 2018/19 to 2023/24.

²⁷ Republic of Rwanda. Ministry of Education (2018). Special Needs & Inclusive Education. Strategic Plan 2018/19-2023/24.

²⁸ Rwanda Education Board. (2020). Competence-based Curriculum. Summary of Curriculum Framework for Teacher Training Colleges.

²⁹ Republic of Rwanda. Ministry of Gender and Family Promotion. (2021). Revised National Gender Policy. Accelerating the Effectiveness of Gender Mainstreaming and Accountability for National Transformation.

³⁰ Communiqué: MINEDUC endorses the use of English language as a medium of instruction in lower primary ²⁶ Republic of Rwanda. Ministry of Education. (2018). Education Sector Strategic Plan 2018/19 to 2023/24.

3.4. Rwanda: Examples of blended or online CPD programmes for teachers

This section provides an overview of five examples of blended or online CPD programmes for teachers in Rwanda focusing on supporting teachers in developing their ICT skills and literacy to be able to embed ICT into their teaching practices. Specifically, the section reviews the following past and current initiatives in Rwanda:

- Capacity Development of Information Communication Technology use in Education (CADIE) project
- African Institute for Mathematical Sciences (AIMS) Rwanda project
- ICT transforming education in Africa
- Rwanda English in Action Programme (REAP)
- Secondary Teachers' English Language Improvement Rwanda (STELIR).

3.4.1. Capacity Development of Information Communication Technology use in Education (CADIE) project

In 2017, the Government of Rwanda – in collaboration with the Republic of Korea – launched the Capacity Development for ICT in Education (CADIE),³¹ which ran between 2019 and 2023.³² The project was designed in line with the policy priorities outlined in the ICT in Education Policy published in 2016. CADIE was implemented by the Rwandan Education Board (REB) and funded by the Korea International Cooperation Agency (KOICA),³³ and targeted 43,00 primary and secondary school teachers to develop their ICT skills and literacy across different regions and districts in Rwanda through training them using a blended learning model (Mugiraneza, 2021). The project also sought to support and train 446 district and sector education officers in developing their digital skills and raise their awareness around the role of ICT in teaching and learning practices.³⁴ Ultimately, the project aimed to help teachers incorporate ICT into their teaching and learning practices and also improve students' 21st-century skills in the country.

Project implementation consisted of four interconnected elements. Element one consisted of the development of a training programme for in-service teachers, pre-service teacher inspectors,³⁵ Sector Education Officers, District Education Officers and Master Trainers, followed by delivery of the training developed to Master Trainers, pre-service and in-service teachers and education inspectors. The third and fourth elements included the establishment of Centres of Excellence, consisting of schools equipped with ICT tools and resources where teachers

³¹ Republic of Rwanda. Ministry of Finance and Economic Planning. (2020). Rwanda and Republic of Korea Sign FRW 5.9 Billion to support IT Development in Schools.

³² Rwanda Basic Education Board. (2017). Capacity Development for ICT use in Education. Available at: <https://www.reb.gov.rw/cadie>

³³ Rwanda Basic Education Board. (2017). Capacity Development for ICT use in Education. Available at: <https://www.reb.gov.rw/cadie>

³⁴ Republic of Rwanda. Ministry of Finance and Economic Planning. (2020). Rwanda and Republic of Korea Sign FRW 5.9 Billion to support IT Development in Schools.



could meet in order to participate in online courses (through a Moodle open-source platform), and the monitoring and evaluation of the programme (Mugiraneza, 2021). The development of Centres of Excellence in each school aimed to eliminate the challenges that teachers and students often faced in relation to the limited internet connectivity and the lack of both physical and digital resources and infrastructure in schools in Rwanda (Mugiraneza, 2021).³⁶ According to recent data from 2023, 25,076 in-service teachers from public and government-aided secondary schools in Rwanda have been benefited from the CADIE project and the project has been extended from three to four years. These in-service teachers were trained to use student-centred pedagogical approaches using ICT tools and resources. Additionally, evidence from 2023 show that 61 Centres of Excellence have been established and equipped with 3,120 laptops, 61 projectors and other resources. Furthermore, the project led to the training of 4167 sector education inspectors, 129 CADIE master trainers, 60 district education officers, 30 NESA inspectors 13,207 in-service teachers who received the Microsoft Certified Educator certification.³⁷

3.4.2 African Institute for Mathematical Sciences (AIMS) Rwanda Teacher Training Programme

The African Institute for Mathematical Sciences (AIMS) Teacher Training Programme is part of a

wider project implemented in several countries in SSA, aiming to support students who face economic disadvantages to complete master's level education, and improve the quality of secondary STEM teaching and learning practices in the region.³⁸ In Rwanda, the AIMS Teacher Training Programme, implemented under the Leaders in Teaching project, aimed to equip secondary STEM teachers with gender-responsive tools and resources for teaching and learning in science and maths.³⁹ Additionally, the project in Rwanda supported secondary STEM and ICT teachers and subject leaders in further developing their digital skills and literacy, equipped schools with the necessary ICT resources and infrastructure, included public engagement outreach activities to raise awareness around the importance of STEM education for both girls and boys, and incorporated research activities to increase governmental engagement and policy dialogues around these issues.⁴⁰ In relation to teacher training, through the project, teachers and master trainers received training on gender-responsive pedagogical approaches in STEM subjects, content knowledge, pedagogical practices, incorporation of ICT into teaching practices and mentoring from school leaders and other senior stakeholders.⁴¹ The project was implemented between 2018 and 2022 by the Mastercard Foundation Leaders in Teaching initiative in collaboration with AIMS, the University of Rwanda College of Education (URCE) and the Rwanda Basic Education Bureau (REB).⁴²

The training conducted through the project targeted 4,500 in-service teachers in 70

³⁵ & ³⁶ Rwanda Basic Education Board. (2017). Capacity Development for ICT use in Education. Available at: <https://www.reb.gov.rw/cadie>

³⁷ <https://www.newtimes.co.rw/article/8419/news/featured/over-25000-teachers-benefit-from-innovative-project-to-enhance-ict-utilisation-in-schools>

³⁸ Mastercard Foundation. African Institute for Mathematical Sciences (AIMS). Available at: <https://mastercardfdn.org/partners/african-institute-for-mathematical-sciences-aims/>

³⁹, ⁴¹-⁴⁴ Ibid.

⁴⁰ African Institute for Mathematic Sciences. Next Eistein Initiative. Teacher Training Programme (TTP) Rwanda. Available at: https://nexteinstein.org/teacher_training/teacher-training-in-rwanda/



secondary schools in Rwanda, and 2,100 pre-service teachers from the URCE.⁴³ Furthermore, the URCE and 30 schools in the country were equipped with multifunctional classrooms that could be used for training and professional development for pre-service and in-service teachers.⁴⁴

Research into the programme revealed that secondary school STEM and ICT teachers and subject leaders lacked confidence in their abilities to use digital tools, with only a small number owning digital devices (Mugiraneza, 2021). Additionally, the study found that almost half of secondary school classrooms were not connected to electricity, most secondary schools (86%) were not connected to the internet and most students could only access digital resources and devices through computer labs (ibid). As a result, STEM and ICT teachers and subject leaders expressed the need to participate in additional training and CPD programmes on the new curriculum, develop their ICT skills, learn to integrate ICT into their teaching and learning practice, and have access to digital content that they can use to plan lessons and activities (ibid).

3.4.3. ICT Transforming Education in Africa

In 2015, UNESCO – in partnership with the Korean Funds in Trust (KFIT), supported by the Republic of Korea – launched the ICT Transforming Education in Africa project in several African countries, including Rwanda, to support pre-service and in-service

teachers with integrating ICT in education and improve their digital literacy skills.⁴⁵ The first phase of the project was implemented from 2016 to 2019 in Mozambique, Rwanda and Zimbabwe. The programme's overarching aims included improving the accessibility and quality of education by supporting in-service teachers to adopt teaching practices using ICT, building the capacity of HEIs and teacher training institutions to use open and distance learning to support pre-service teachers, and supporting the development and implementation of the ICT in education policies of those countries (UNESCO, 2020).

In Rwanda, the project focused on supporting and upskilling in-service teachers in embedding digital tools and resources into their classroom and using electronic assessment, reinforcing the capacity of the URCE to expand pre-service teachers' access to higher education through open and distance learning, and also supporting the development and implementation of ICT in education policy (Mugiraneza, 2021; UNESCO, 2020). Research into the project indicated that it led to the development of teachers' capacity to embed ICT into their teaching practices by contributing to the harmonisation of teacher training initiatives, developing and validating a monitoring and evaluation framework for certification standards, and developing and piloting the ICT Essentials for Teachers training and Advanced ICT Essentials for Teachers training based on the UNESCO ICT Competency Framework for Teachers (UNESCO, 2020). Additionally, the project contributed to the development of an electronic assessment

⁴⁵ UNESCO. ICT transforming education in Africa. Available at: <https://www.unesco.org/en/digital-education/kfit-africa>

⁴⁶ British Council. Rwanda English in Action Programme. Available at: <https://www.britishcouncil.org/partner/track-record/rwanda-english-action-programme>



system for public schools focused on formative electronic assessments included in the REB website. This electronic assessment system aims to provide an item bank of formative electronic assessments to support teachers' assessment practices in Rwanda (UNESCO, 2020). Furthermore, the project supported URCE staff to use and develop open and distance as well as multimedia learning resources, contributed to the development of policies in teacher training colleges in the country and the University of Rwanda and supported students with disabilities in their participation in open and distance learning (UNESCO, 2020).

3.4.4. Rwanda English in Action Programme (REAP)

The Rwanda English in Action Programme (REAP) was implemented by the British Council and the UK Department for International Development (DFID) between 2009 and 2011.⁴⁶ The programme aimed to help primary school teachers in Rwanda improve their English literacy and language proficiency through teacher training and new teaching and learning materials.⁴⁷ As English was introduced as the new language of instruction in primary schools in Rwanda in 2008/9, there was an imperative need to provide training to teachers to help them develop their English language skills and ultimately support students' English language learning (Simpson & Muvunyi, 2012).

In this context, the programme aimed to support teachers and students in improving

their language skills and increase their confidence in speaking English (Simpson & Muvunyi, 2012). To do so, the project sought to deliver the following actions: developing reading and writing skills in Kinyarwanda ('the bedrock of initial literacy and learning'); developing academic literacy skills in English; supporting teachers to use English for communication; providing teachers with language-supportive subject teaching and school-based mentoring opportunities; creating resource centres for pre-service teachers in teacher training colleges in Rwanda, and enhancing the language and literacy material and resources for teachers and students in schools in the country to enable the development of literacy and learning in both Kinyarwanda and English (Simpson & Muvunyi, 2012).

Through the project, teachers had opportunities to practise English by participating in training, conducting self-directed study and taking part in school-based peer mentoring (Simpson & Muvunyi, 2012). In total, 85,000 teachers attended the English language training, delivered by 1,000 trainers over five weeks across 860 training centres. 250 school-based mentors were also trained.⁴⁸ The project also led to the development of English language resources for both trainers and teachers, as well as content for radio and print media.⁴⁹

³⁵ & ³⁶ Rwanda Basic Education Board. (2017). Capacity Development for ICT use in Education. Available at: <https://www.reb.gov.rw/cadie>

³⁷ <https://www.newtimes.co.rw/article/8419/news/featured/over-25000-teachers-benefit-from-innovative-project-to-enhance-ict-utilisation-in-schools>

³⁸ Mastercard Foundation. African Institute for Mathematical Sciences (AIMS). Available at: <https://mastercardfdn.org/partners/african-institute-for-mathematical-sciences-aims/>

³⁹, 41-42 Ibid.

3.4.5. Secondary Teachers' English Language Improvement Rwanda (STELIR)

Aims of the STELIR course

The key objective of the STELIR course is to improve the English language proficiency of Lower Secondary Teachers (LSTs) within the Rwandan state education system to an intermediate level or higher, ultimately aiming to enhance learning opportunities for lower secondary students (British Council, 2023). A further aim of the STELIR course is to achieve sustainable change in the Rwandan education system through two primary strategies. Firstly, by adapting training materials for the REB to facilitate face-to-face intensive and online delivery; and secondly by cultivating a cadre of local ETTs, including both face-to-face trainers and eTMs who can deliver ongoing training after the project has been concluded; and who could expand their reach by training others to take on their roles. STELIR also seeks to integrate the materials and associated methodologies into pre-service teacher training courses at the URCE. This integration will be spearheaded and advanced post-project by the URCE ETTs. These trainers were recruited for the project from the current cohort of URCE tutors and will have conducted English training for English teacher trainees during the project.

Trainers and Moderators

Educators from the Rwandan Education system were recruited from Teacher Training Colleges or secondary schools to train as ETTs. They underwent comprehensive training, including a 10-week online course and practical teaching sessions. After the course, ETTs participated as trainers in face-to-face English Proficiency Training whereas eTMs – other teachers and tutors were selected to train as eTMs for online teaching. The training involved a seven-week online course with the Norwich Institute for

Language Education (NILE), which included moderating asynchronous courses and teaching live online courses. Participants then participated as eTMs in the STELIR course, delivering online sessions.

Theory of change of the programme

It is suggested that students in the Rwandan lower secondary education system, who are learning through the medium of English, will benefit from the enhanced English proficiency of their teachers; and their subsequent improved ability to articulate their content in the classroom. LSTs are first advanced through a residential course, where teachers engage with purpose-built resources and are taught by ETTs who have received training in communicative language teaching (CLT). Following the residential course, LSTs carry out independent study and engage with learning materials for 60 or 90 hours over a duration 20 weeks. This independent study is carried out remotely on devices loaned to participants for the purposes of the project. Alongside independent study, LSTs take part in weekly live speaking and communication sessions, delivered by eTMs trained by STELIR, to improve their productive English skills. After the period of online learning, SBMs deliver English language classes to the LSTs in schools over 5 months.

Structure of the course

Language development is central to the STELIR course design. The English language course includes three stages, and it is delivered in a blended format. Prior to the course, teachers take the Aptis English proficiency test to gauge their level of English so that they can be offered the STELIR course at the appropriate level. The test results are measured against the Common European Framework of Reference for languages (CEFR), ranging from Basic User (A1/A2), Independent User (B1/B2), and Proficient User (C1/C2). Depending on the language level of participants, the course

involves either 30 or 60 hours of intensive in-person English lessons over one or two weeks; 60 or 90 hours of asynchronous online learning with weekly synchronous live sessions over 20 weeks; and a third stage of in-person CPD held in teachers' schools and led by SBMs. For the online stage, teachers are given 4G enabled tablet devices loaned by the project for the duration of their study. After the period of online learning, stage three includes in-person CPD held in teachers' schools and led by SBMs for in-service teachers, and a peer-led professional development skills course for pre-service teachers. The entire learning cycle takes place over a year for each language level. LSTs who require additional English improvement are invited to repeat the learning cycle once or twice until they achieve B1 level (British Council, 2024).

The structure of the course is outlined in the table below:

Language level	Face-to-face	Online learning	School based support
B1	30-hour intensive course over one week	90-hour online course over 20 weeks	SBM-led, school-based, peer-supported CPD over 5-6 months
A2	30-hour intensive course over one week	90-hour online course over 20 weeks	
A1	60-hour intensive course over two weeks	60-hour online course over 20 weeks	

Table 3: Structure of the STELIR course - *This table is re-presented from the STELIR leaflet September 2024.*

Gender

Although most primary school teachers in Rwanda are female (56.9%), females only account for 34.8% of secondary school teachers.⁵¹ As such, female secondary school teachers are the minority at the school level or when participating in professional development, outnumbered by almost two male teachers for every one female. This can undermine teachers' self-confidence, potentially limiting participation or engagement with learning opportunities.

Acknowledging this, efforts were made within the STELIR course to mitigate any barriers faced by participants due to their gender. Some of these actions are outlined below:

- Training STELIR ETTs and eTMs in inclusive teaching techniques. This aims to prepare them to facilitate equal participation in speaking practice or contribution to group discussions.
- Selecting women trainers (ETTs and eTMs) to serve as role models and mentors to female teachers involved in the project.
- Considering the potential of teaching and learning resources to contribute to gender inequality through stereotypes or biased content, all materials used within the programme were reviewed with a gender perspective to ensure they did not perpetuate gender stereotypes.
- Allowing for any gender gaps in proficiency to be identified through the Aptis placement tests (based on differences in scores for male and female LSTs) and addressed through targeted activities in the programme.

- Supporting female teachers in attending the course by discussing their needs during a personalised phone call and providing comprehensive support (financial, logistics, accommodation, etc). This was particularly important to support women with childcare needs in attending the face-to-face training.
- Facilitating WhatsApp communities for online training, where eight female eTMs (one per district) help female teachers overcome participation barriers. Feedback from these groups has allowed STELIR to make adjustments such as schedule changes to boost participation.

Impact

According to data published by the British Council, 98% of teachers who participated in the programme reported that they use English in their classroom, and that they have increased their confidence not only in their English language skills but also in applying what they learnt through the programme with their students in their classroom. Additionally, data show that 98% of teachers reported that attending the programme raised their awareness and changed their mindsets around their own learning and professional development. In terms of English language development,⁵² the table below presents data provided by the British Council regarding the progress against the key targets for in-service and pre-service teachers taking the Aptis tests.

⁵¹ Republic of Rwanda. Ministry of Education (2024). 2022/23 Education Statistical Yearbook. School Year Ended in July 2023. Available at: <https://www.mineduc.gov.rw/index.php?elD=dumpFile&t=f&f=99472&token=a77954c7ba4e20d300bc0de5ef3d2ad6e4772a58>

⁵² British Council. (2024). Secondary Teachers English Language Improvement Rwanda (STELIR). Innovations in blended teacher professional development for in-service and pre-service teachers in Rwanda leaflet.

⁵³ Ibid.

	In-Service Teachers	Pre-service teachers
Target by 2025	6,000 in service teachers	1,000 pre-service teachers
Year 1	3,619 (Female:37%, Male: 63%)	1,031 (Female:49.6%, Male: 50.4%)
Year 2 (as of March 2024)	6,598	650
Programme target	110% (achieved by March 2024)	168% (achieved by May 2024)

Table 5: Progress against key target for teachers taking Aptis tests⁵³

3.5. Conclusion

Overall, the literature on blended and online learning outlines several benefits of these modalities in the training of teachers for the purposes of professional development. Some of these benefits include the promotion of independent/autonomous learning and collaboration, the development of digital skills, improvement of communication and language skills, and the flexibility this modality provides, which can help to boost attendance and participation.

That said, evidence also identifies various common challenges that can impede the effective implementation and sustainability of blended teacher training and CPD courses in LMICs, with the most commonly cited being a limited (or lack of) ICT infrastructure, limited internet connectivity and electricity, and limited digital skills and competences among teachers. Furthermore, several studies point out that WTs and TWDs face additional barriers in their participation in blended or online training and CPD programmes, which must be considered in the design, development, and implementation of blended or online courses in order to ensure these trainings meet their needs and interests.

Ensuring access, inclusion and the active participation of all teachers in blended or online courses is considered essential, and the

literature outlines various ways through which these challenges can be addressed. Common recommendations include ensuring that the ICT facilities and infrastructure, internet connectivity and electricity are in place, providing appropriate and adequate training to moderators and trainers, providing continuous support to teachers during and after training takes place, adopting inclusive programme design approaches and differentiating the learning materials and resources to address teachers' needs are some of the necessary conditions that facilitate the successful implementation of blended or online training and CPD courses in LMICs.

In the context of SSA, there have been some blended or online training and CPD initiatives aiming to support teachers in developing their ICT skills and literacy. The evidence presented above shows that these projects have been effective in supporting teachers in SSA countries develop their digital skills and literacy. In Rwanda, the development of several education policies around teacher training and development, ICT in education and equity and inclusion since 2000 has led to the development of several blended or online courses targeted at pre-service and in-service teachers which aim to help them develop their digital skills and competencies, alongside their English language skills and/or subject-specific knowledge.



4. Findings of the Process Evaluation

This section presents the findings from all the stakeholder engagement activities conducted as part of the study. This included:

- interviews and focus groups with WTs and TWDs, particularly VITs
- focus groups and a paper and online survey with in-service and pre-service teachers
- focus groups with eTMs, and
- observations of some online (live Webex) sessions of the STELIR course.

This section presents the preliminary findings from the fieldwork conducted as part of the process evaluation component the STELIR course. It provides insights into participants' perceptions of the quality of implementation of the STELIR course, with a particular focus on exploring the perceived quality of the online component of the training. Additionally, the findings aim to shed light on the main barriers to participation in the online stage of the STELIR course which comprises of self-study and live sessions, particularly those experienced by WTs and VITs, as well as exploring ways through which these might be addressed. Furthermore, the findings also present participants' perceptions around the development of their ICT skills as a result of their participation in the online stage of the STELIR course and the measures that need to be taken to support teachers in further developing their ICT skills.

The findings presented in this section are organised thematically under the themes of 'effectiveness and quality of implementation of the STELIR online stage' and 'equity and inclusion'. They shed light on participants' perceptions, experiences and views of their access to, and participation in, the online stage of the STELIR course.

4.1 Perceived effectiveness and quality of Stage 2 (online) of the STELIR blended English course

This section presents the findings of the study concerning the reported or perceived effectiveness and quality of the online stage of the STELIR course. This includes teachers' positive experiences, challenges faced, suggestions for improvement and areas in which additional support would be beneficial to sustain the impact of the training. It draws on the data collected through the survey, interviews and focus groups with in-service and pre-service teachers (including WTs and TWDs), eTMs, and the observations of online sessions.



4.1.1 Reported positive experiences

Several positive experiences and benefits of teachers' participation in the online stage of the STELIR course were reported, including:

- positive views of the content, structure and teaching methodologies of the live online sessions
- positive views of the blended online and face-to-face modality
- positive impact on teachers' English language proficiency and confidence in speaking English
- positive impact on teachers' digital skills and literacy
- positive impact on teachers' social skills and time management skills
- generally positive views of the role of the eTMs
- positive views of the role of the international e-trainers
- eTMs positive views of the STELIR preparatory course in teaching live online delivered by NILE.

Positive views of the content, structure and teaching methodologies of the live online sessions

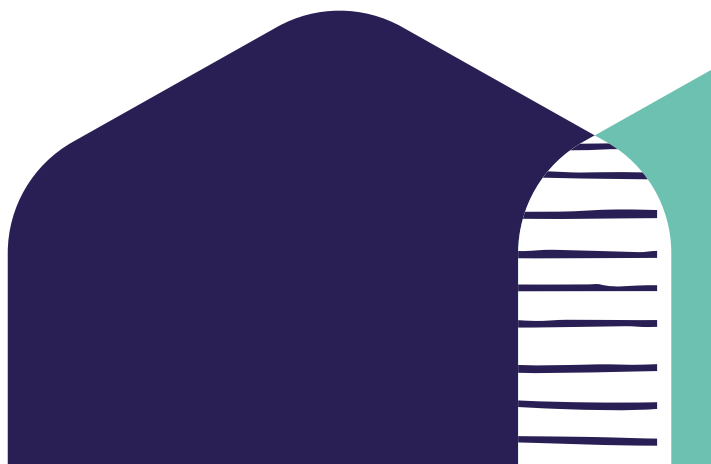
All the online sessions observed typically followed the same structure. Teachers would be greeted by the host (an international e-trainer or an eTM, or both) who would check that everyone can see and hear them. After a brief introduction to the topic, the sessions consisted of a warmup activity (which lasted 6-15 minutes) and two language activities (namely, Language Activity 1 and Language Activity 2). Each language activity lasted 25-35 minutes, during which time the task was explained and carried out in smaller breakout rooms (lasting 10-15 minutes), before everyone returned to the main group for a whole group discussion to feedback.

Most in-service and pre-service teachers who participated in the focus groups expressed positive views regarding the content, structure and teaching methodologies used during the live online sessions of the STELIR course. More specifically, teachers reported that they enjoyed the content and the topics covered during the online sessions because they reflected the Rwandan social and cultural context. They also highlighted that the online sessions offered an opportunity to discuss, share experiences, socially interact, and brainstorm about topics from real-life situations. Participants also appreciated the wide topic coverage across different areas of study, such as tradition, economics, technology, transportation, travelling, sport, communication and other topics, which helped them expand their English vocabulary:

“

Most of the content was written in a way that was helpful for all of us. It covered different skills, speaking, listening, and also different topics that touch on different aspects of life, technology, sport and communication, etc.

(M2, IFG7)



“

Online sessions had lots of content. Somethings you knew but somethings you didn't, and it was helpful to find out what you did not know to improve your understanding.

(M2, IFG6)

Data from the observations of the online sessions corroborate these findings. The online sessions observed covered a wide range of topics that reflected participants' local context, such as science and technology, farming, tourism, hobbies and interests and the East African Community (EAC). Activities often involved coming up with ideas as a group, such as providing advice for tourists visiting Rwanda, or brainstorming around their knowledge of the EAC.

Additionally, most in-service and pre-service teachers agreed that they enjoyed the **teaching methodology and activities** used by the local eTMs, and the international e-trainers during the online sessions.⁵⁴ They explained that they particularly enjoyed the warmup activities and games. The focus groups

revealed that participants saw value in learning through games and other interactive learning activities where they were asked to discuss ideas, share experiences, and collaborate. Notably, some teachers mentioned that, having experienced these pedagogical strategies during their training, they now use them with their own students:

“

It was very interesting teaching and learning by using games and they were very relevant to the topics and now they are able to use these games in their own classroom such as the warmup activities.

(W1, IFG7)

⁵⁴ The Norwich Institute of Language Education (NILE) provided experienced e-trainers to deliver online sessions to teachers and mentor STELIR eTMs. The international e-trainers delivered the online live sessions on Webex, and they were shadowed by local eTMs who supported them during the live sessions.



“

The content was good because you had the chance to explain yourself and express your ideas which means you have more opportunities to use that in your teaching.

(W2, IFG4)

Observations of the online sessions confirmed high levels of engagement with a wide variety of activities, including: rearranging or adding letters to spell relevant words; identifying the correct word to describe a picture; identifying rhyming words; explaining what country participants would like to visit and why; and an activity called ‘Add to the Chain’ where participants were asked to add a relevant noun onto a list of given verbs (e.g. produce – produce, develop – development). The language activities generally consisted of a guided discussion in which participants would ask each other questions (such as ‘What are your hobbies?’ or ‘How often do you use your phone?’) with a view to answering an overarching question (‘Who has the most unusual hobby?’ or ‘Who uses their phone the most?’). Other activities included quizzes, or a word description game. According to the STELIR documentation, the intended outcomes of the activities was to inspire teachers to use more interactive activities with their students in their own classes.

Most focus group participants also positively perceived the **structure and the length of the sessions**. They reported being happy with both the duration of the online sessions and how the content/topics were organised. Some participants particularly appreciated the constructivist and gradual approach to content coverage, starting from simple and moving towards more complex terms:

“

The quality of the training was not low, the content was not low, because the system starts with simple to more complex, so there is progression.

(M1, IFG3)





eTMs, too, found both the self-study units hosted by STELIR on Rwanda Basic Education Board's (REB's) Moodle and the live online sessions facilitated by eTMs and e-trainers to be effective due to the well-designed content, well-organised slides and sufficient time being dedicated to practice, whilst also finding the self-study units to be interactive and easy to use/monitor. Moreover, the eTMs interviewed particularly appreciated the breakout rooms and their ability to follow-up with teachers during and after the training via their dedicated WhatsApp groups. The vast majority of the in-service and pre-service teachers interviewed found the follow-up support they received from the eTMs very helpful.

Positive views of the blended online and face-to-face modality

When asked to comment on the overall usefulness of the online stage of the STELIR course, 95 participants (50%) reported that they found it very useful, followed by

91 participants (48%) who found it useful – indicating a very positive outlook on the online training overall. Therefore, 98% in total found the online sessions either very useful or useful. However, as indicated in the figure below, a higher percentage of respondents – 73% (139 respondents) – found the face-to-face sessions to be very useful, followed by 26% (50 respondents) which found these useful. As a result, in total 99% of respondents found the face-to-face sessions either very useful or useful. This reflects a slight preference for a face-to-face modality. A preference for the face-to-face sessions was also expressed by some teachers during the focus groups, as they explained that this modality allowed more interaction, participation and engagement. More specifically, WTs expressed a particular preference for the face-to-face modality as this allowed them to concentrate on their learning without the distractions they often face at home (such as care and domestic responsibilities) when participating in online training (see section 4.2.1).

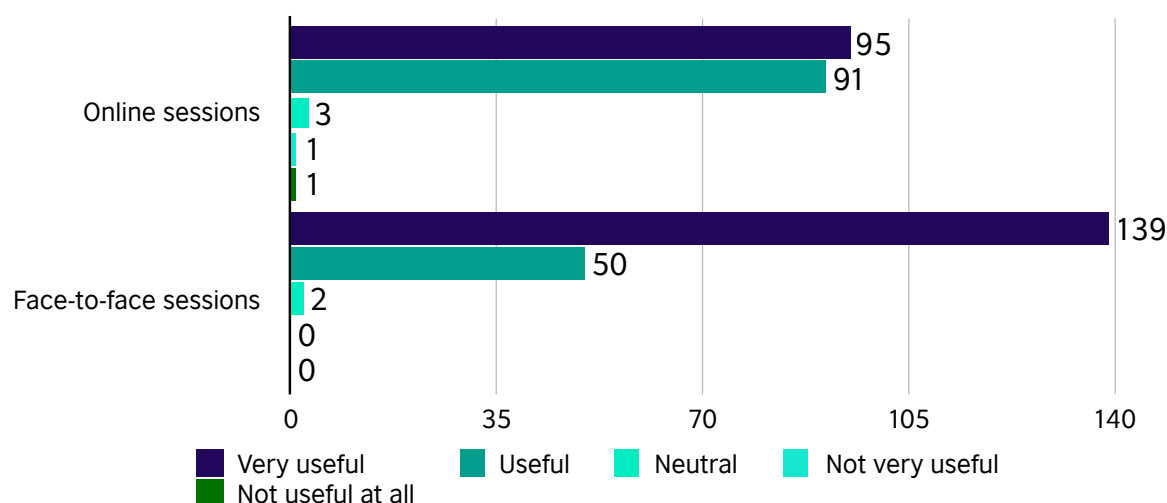


Figure 5: Teachers' reported views of the usefulness of the face-to-face and online sessions

That said, when asked which overall training modality they preferred – fully face-to-face, fully online or hybrid – most teachers reported a preference for both face-to-face and online sessions (74%):

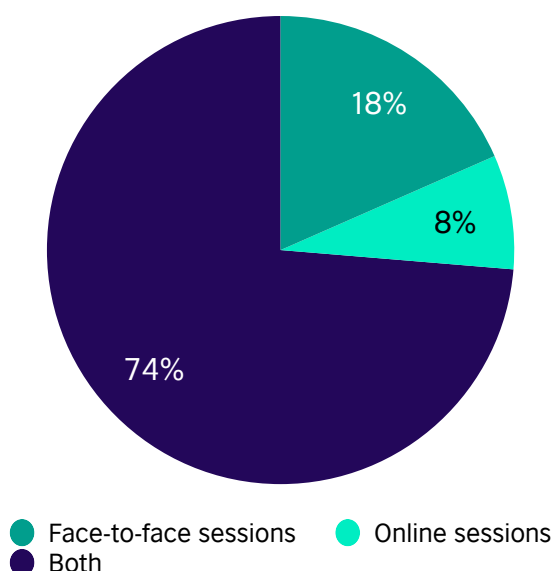


Figure 6: Teachers' reported preferences for face-to-face sessions, online sessions or both

Impact on teachers' English language proficiency and confidence in speaking English

Regarding teachers' English language knowledge and skills, all in-service and pre-service teachers across all focus groups highlighted that the training helped them develop their English language skills, especially their grammar, vocabulary, speaking and listening skills.

eTMs interviewed also reported noticing improvements in teachers' English language proficiency, particularly their speaking skills and their confidence in speaking English, as a result of the online training they undertook. This is in line with what the teachers themselves reported:

“

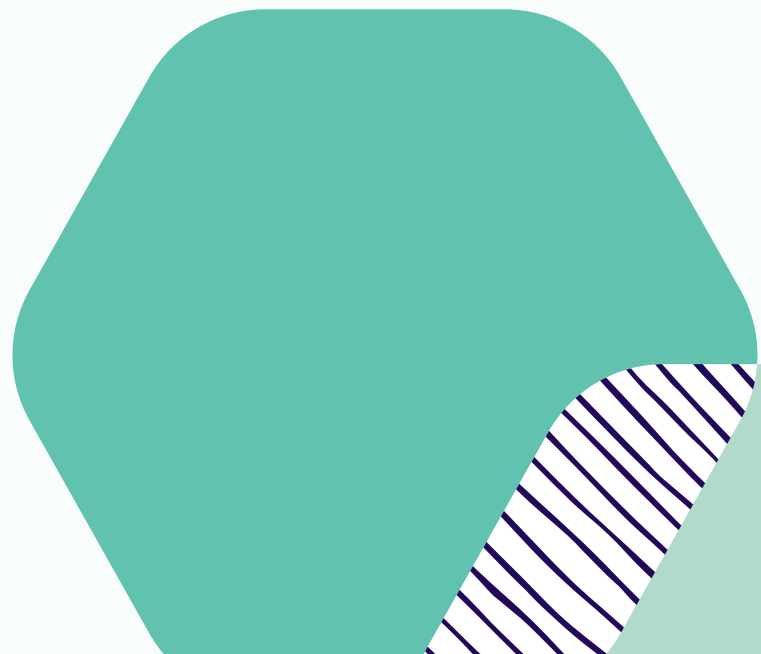
It helped me to learn communication in many things. Before the training I was less able in speaking, but when you start getting the training in the STELIR training programme I get many things. I am more confident with speaking. Even if I sometimes make mistakes in my speaking, I have the opportunity to correct it very quickly because I learnt to solve problems. I learnt how to communicate in different social settings and to communicate more easily. It encouraged me to develop my communication. It helped me whilst I am training to be a teacher.

(M1, PFG1)

“

Our English has been improved so after the training now for us I am proud and confident in speaking and using English.

(W2, IFG4)



Most interviewees mentioned that before they joined the course, they faced substantial challenges in communicating in English and experienced fear of doing so. They explained that the online sessions helped them overcome that fear by exposing them to other participants speaking in English using different accents and pronunciations; allowing them to practice their speaking skills, both with other teachers and native English speakers:

“

Helped me to improve the level of confidence of speaking English. Before attending the sessions, the online and face to face to sessions, I had some challenges in speaking English but by now I try and try and I got confidence...

(M5, IFG2)

As such, the ability to speak with others was particularly appreciated, including the opportunities for international and cultural exchange that arose from working with international e-trainers.

Accordingly, several teachers reported that working in groups and collaborating with other teachers in the virtual breakout rooms helped them improve their English-speaking skills and increase their confidence in communicating and sharing ideas English:

“

This programme of study helped us to develop self-confidence speaking in front of others. This programme helped us to speak English. Even if there is a mistake, we can still try to speak. It also helped others to know how to correct you. It helps us to communicate with others, for example out workmates, in the classroom or outside of the classroom. It helped us to have skills and know about digital tools. By using Webex for the meetings and taking online exams. This training also helps us to be a good future teacher. Because it allows us to develop our language.

(W1, PFG1)

According to the STELIR documentation, teachers were grouped by the level of their English language skills as identified through the pre-course Aptis test. However, some teachers commented on perceived differences in English language levels and confidence to use English among them. They highlighted that the online sessions consisted of teachers from different subjects and with perceived different

levels of English language skills as well as differing levels of confidence to use English. They explained that teachers with perceived lower levels of English could interact with more experienced teachers and those who were more confident to use English during the online sessions, which helped them further develop their English language skills.

“

I found the training very helpful to interact with others, to see how other people speak, to collaborate, discuss about different things. Some teachers cannot even make a sentence and some others speak more fluently. Teachers need more practice in secondary level especially mix level and ability group was useful because teachers with high abilities can help teachers who have low abilities and skills.

(M5, IFG2)

“

I have gained a lot of things such as social interactions because everything it was done by speaking English it was not in Kinyarwanda, so my speaking skills have been improved.

(M5, IFG2)



Observation of the online sessions revealed that the online training's positive impact on teachers' English language skills may in great part have come from the support provided by eTMs and international e-trainers. There was clear evidence of eTMs and international e-trainers clarifying understanding of tasks, particularly prior to breakout room discussions, and the use of visual aids (e.g. pictures) or examples to support understanding – e.g. prior to a breakout room discussion, eTMs and international e-trainers would propose questions the teachers might ask their group, example answers they might give, or ask teachers to model the conversation they might have. International e-trainers, in particular, were able to explain some colloquialisms like 'what you got up to' or unusual terms, such as 'rekindled'. It was also observed that eTMs and international e-trainers gave frequent feedback to teachers – for example, by correcting their grammar or explaining why a particular answer was correct or incorrect. More specifically, they would often observe the breakout rooms and give feedback of what they heard to the whole group. Overall, they would usually provide constructive feedback, which was positively received by teachers and contributed to successful learning.

Impact on teachers' digital skills and literacy

In terms of digital skills and literacy, most in-service and pre-service teachers reported an improvement in their digital skills and literacy – with 54% of survey respondents strongly agreeing and 43% agreeing that taking part in the online component of the STELIR course had improved their skills in using digital tools and devices (such as tablets). As illustrated in the figure below, 68 pre-service teachers strongly agreed that taking part in the online sessions had improved their skills in using digital tools and devices than compared to 30 in-service teachers. This is potentially due to the larger number of pre-service teachers who responded to the survey (117 pre-service teachers and 74 in-service teachers).

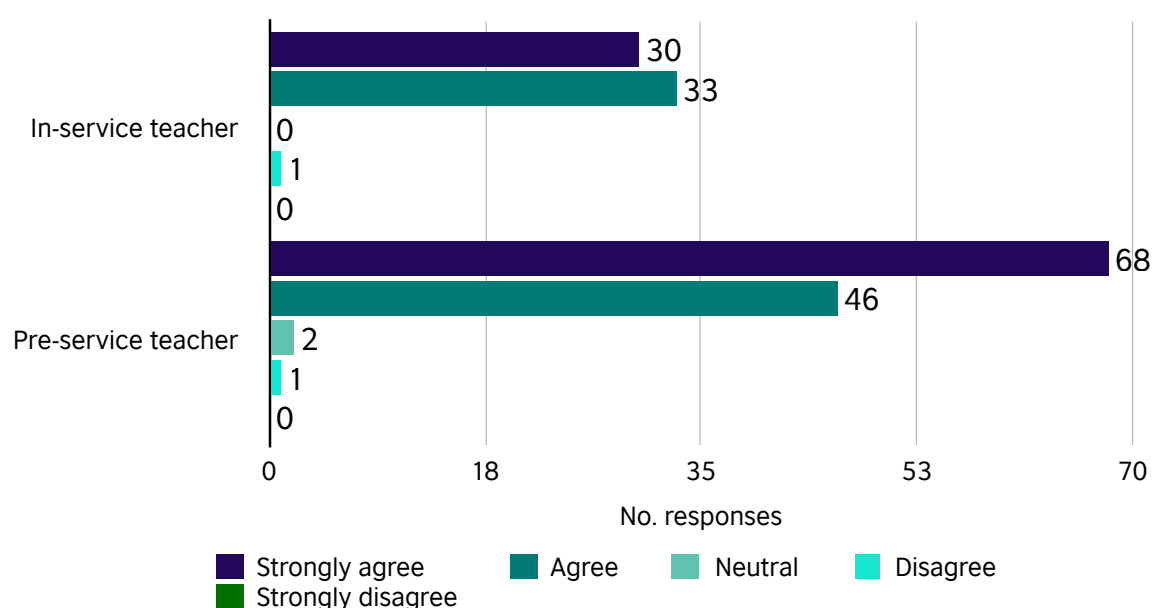


Figure 7: In-service and pre-service teachers' views of the impact of the online sessions of the STELIR course on their skills in using digital tools and devices (such as tablets)

95% of survey respondents also reported now feeling either very confident (74%) or confident (21%) in using digital devices (i.e. post-training) – representing a significant confidence jump from a pre-training starting point of 16% (very confident) and 43% (confident), respectively.

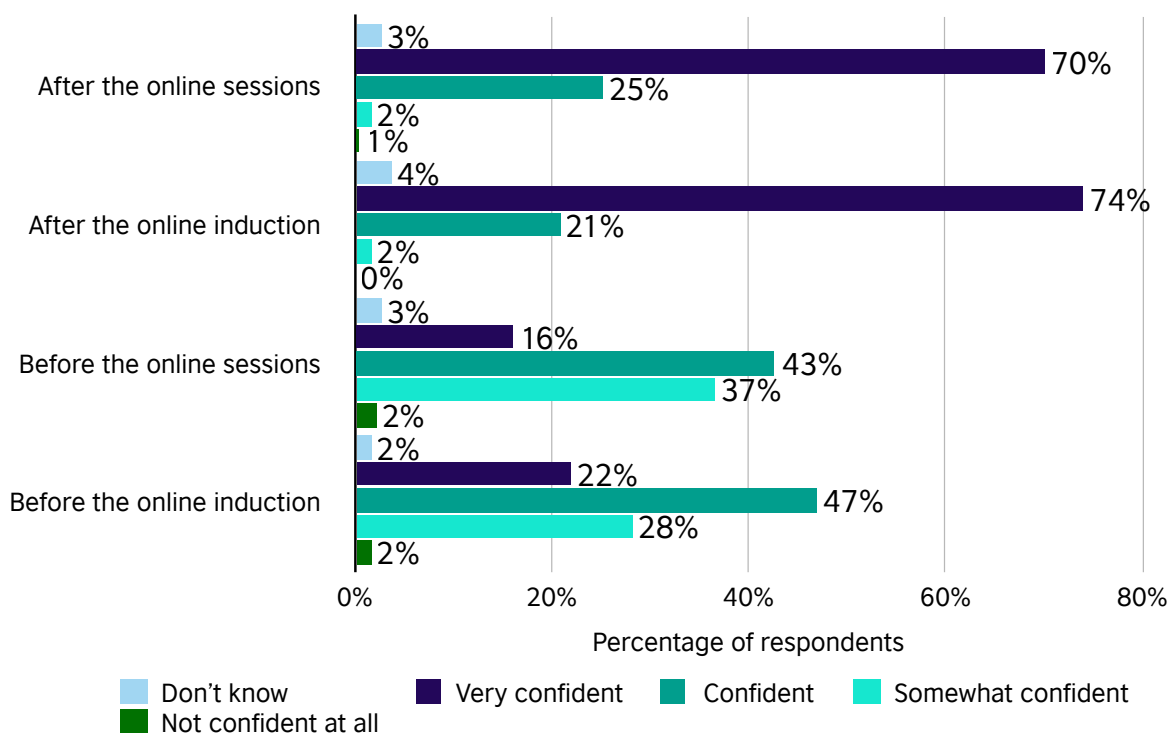


Figure 8: Teachers' self-reported confidence in using digital tools and devices (such as tablets) before and after the online induction and the online sessions of the STELIR course

This is significant, particularly considering that as many as 10% of survey respondents reported finding tablets not very easy to use to begin with, and a considerable number having used the STELIR help-line phone (57%) and the WhatsApp community (73%) to request technical support – suggesting the levels of digital literacy and confidence were initially quite low. From those participants who reported that they have used the STELIR help-line phone and the WhatsApp community, roughly 87% found them either very helpful or quite helpful.

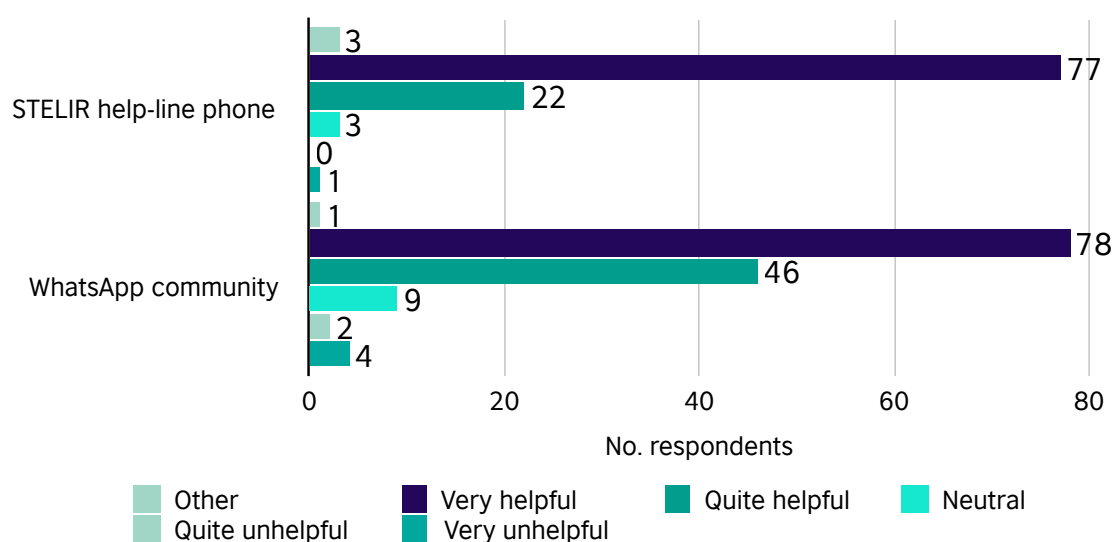


Figure 9: Teachers' views on the helpfulness of the STELIR help-line and WhatsApp community

When elaborating on the digital skills they had gained, focus group participants explained that the online sessions required them to learn how to use video conferencing software (i.e. Webex), including aspects such as joining an online meeting, muting/unmuting their microphones (when appropriate) or joining virtual breakout rooms; how to use social media platforms such as WhatsApp; and how to use the tablets for independent learning, research and professional development, by searching the internet for additional learning materials and sources (e.g. videos, articles).

During the online sessions observed, it was noted that the level of teacher's participation, engagement and interaction during the sessions was variable. For example, many teachers were able to mute and unmute their microphone to answer questions, send emojis, raise their hand or write in the chat – meaning that they were able to engage in the activities. Indeed, both men and women were observed to engage in the sessions in this way. Participants also reported positive experiences in learning from the STELIR course hosted on the REB Moodle, noting that the process of downloading and accessing the self-study materials on the website at their own pace had helped them to develop both their digital and their self-study skills.

As such, not only did the training reportedly strengthen participants' digital skills, but it also **instilled a 'new culture' of independent and autonomous learning:**

“

I think I have got digital skills before I didn't even know how to use Webex, I learnt how to use it on my own and I learnt many things from there how to use Webex.

(M3, IFG2)

“

It created in me a new culture of using my telephone to find meanings of new words.

(W1, IFG13)

Positive perceptions and increased confidence were also reported around the use of tablets (or digital devices more broadly) for learning. 98% of survey respondents said they either really liked (78%) or liked (20%) using tablets for learning; and the focus groups revealed an increased confidence around tablet use (or digital devices more broadly) as a result of the course, particularly as participants primarily accessed the online training through tablets provided by STELIR. This was reportedly especially the case for older teachers who had no prior experience with using tablets.

When asked about the live sessions on Webex, a number of participants reported that the virtual breakout rooms had not only allowed them to freely express their ideas and collaborate with colleagues, but had also taught them that **there was a way of doing so in an online setting (as opposed to face-to-face):**

“

Learning online was very helpful because I was able to use technological tools like Webex. Learning online opened my mind and I was able to think beyond. [...] It opened my mind because I now know that there are other ways of meeting and sharing ideas instead of face-to-face. I learnt how to communicate with others and share knowledge. It opened my mind to these new ways of learning.

(M1, PFG3)

“

Webex live sessions was good because we were in breakout rooms, because it was discussions, and everyone was discussing and was free to express themselves.

(W2, IFG3)

One teacher also noted that, by developing their digital skills as a result of the training, they are now able to better support the learning of students with disabilities and special learning needs – for example, through creating WhatsApp groups specifically for them to send them activities during the holidays.

“

When teaching students with disabilities, it helped use digital skills. For example, we created WhatsApp group with students to send activities during holidays.

(M1, IFG3)

These finding were supported by eTMs, who reported having observed an improvement in teachers' digital skills as a result of the training. Notably, eTMs observed a difference in participation between live (synchronous) sessions via Webex and the self-study modules (asynchronous) via the STELIR course hosted on the REB's Moodle, noting that both aspects were higher in the self-study than in the Webex sessions. This difference was attributed to the fact that self-study allowed for trainees to learn at their own pace and to organise their own time.

“

Teachers' participation was very high in self-study modules than on live sessions on Webex. Participation in self-study was high because everyone learnt on his or her own pace.

(W2, EFG2)

As illustrated in the quote above, it is evident that some eTMs observed higher participation in the asynchronous aspect over the synchronous sessions.

Impact on teachers' social skills and time management skills

In addition to seeing an improvement in their English language and digital skills, some teachers also reported experiencing an improvement in their social and time management skills as a result of the training. In terms of social interaction, several in-service and pre-service teachers across all focus groups mentioned that the training brought people together and allowed them to strengthen old friendships, meet new people and make new friends. As mentioned above, most in-service and pre-service teachers commented that their participation in the breakout rooms not only helped them practice their English speaking skills and increase their confidence, but also strengthen their social and communication skills:

“

In the breakout rooms it helps us to express our thoughts confidently because we could collect our thoughts together. We are not native speakers, so the breakout rooms help us to collaborate.

(M3, PFG3)

Regarding time management skills, some teachers reported having to manage their time effectively in order to attend the online sessions and activities, which strengthened their organisation and time management skills:

“

What I learnt from my online training was time management. If it was at two o'clock or eight o'clock, I had to manage my time to fit the training.

(W2, IFG7)

Generally positive views of the role of the eTMs

In-service and pre-service teachers across all focus groups expressed mixed views about their eTMs. On the one hand, some teachers characterised their eTMs as being responsive, supportive, engaging, polite, and having good time management and classroom management skills. Several teachers specifically mentioned gaining new knowledge, skills, and teaching methods from the eTMs, observing their teaching practices and using similar strategies in their own lessons.

“

I liked that through online training, I was able to meet with new moderators, who brought new knowledge and new methods of teaching. Online [training] gave the opportunity to learn from other moderators.

(M1, DFG1)

Some teachers also appreciated how eTMs taught the content, using examples and simple language – primarily in English, but also in Kinyarwanda sometimes – to explain the meaning of unfamiliar words. Most participants also expressed positive views of the English language skills of the eTMs, their pronunciation and speaking skills, adding that the latter would often correct their pronunciation, encourage them to speak in English and interact with each other:

“

The e-trainer and eTM can explain well the new words. When they ask us a question and we don't understand them, they try to explain deeply word by word in order to help us to answer that question. For me there was no issue of complex language and speed.

(W1, PFG1)

“

The e-Teacher Moderator was very interesting. He made me appreciate English more of a language than just a subject.

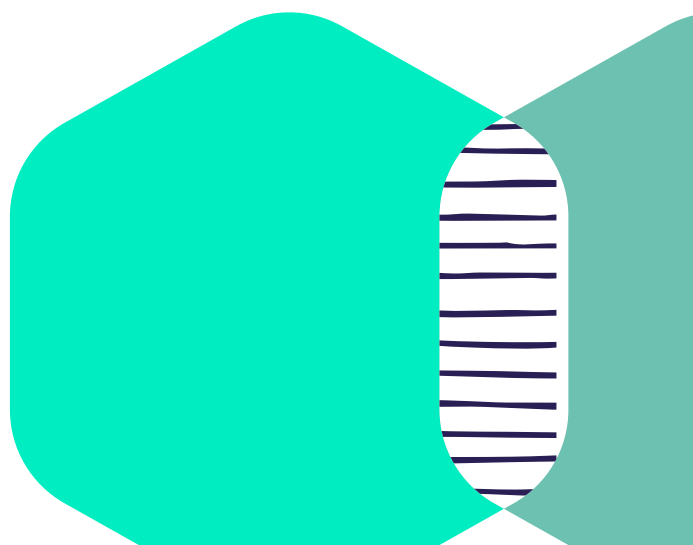
(M1, IFG13)

The focus groups with teachers also revealed an appreciation for the support provided by the eTMs on the use of digital tools and resources. They explained that when teachers experienced issues, they could text the eTMs on WhatsApp or call them to ask them questions, and that they were generally helpful in helping them solve those issues.

“

The first time, it was difficult, but now we're familiar. Even just to join the group, it was very difficult the first time. But the e-Moderator helped us. For the first time, we got to the end of the meeting, and we hadn't managed to join. But the moderator helped us, in the training they taught us how to use it. They used a WhatsApp group to explain, it was very good to have WhatsApp.

(M1, DFG1)



“

He tried enough because he ensured everyone participated. If he recognised that you didn't participate, he asked why, for an explanation. He really assisted us when we faced challenges. For example, in a chat room, I would contact him separately on his phone so that he could help. I really wanted to participate. At the beginning you feel shy, but as the lesson progresses, you feel more confident.

(W1, FFG1)

The focus groups with eTMs also supported these findings, with many eTMs mentioning that they provided technical assistance to teachers with limited digital skills to help them resolve issues (e.g. turning on tablets, connecting to the internet). This support was provided either through a WhatsApp message or a phone call, with 73% of survey respondents having used the WhatsApp community and 57% having used the STELIR help-line phone for technical support- out of which roughly 87% found them either very useful or useful. For more complex issues, eTMs noted that they referred trainees to the British Council support team. All eTMs agreed that these measures were helpful for some teachers.

On the other hand, some teachers highlighted that the eTMs had limited digital skills and were often not confident in speaking English. In terms of their digital skills, findings from the focus groups with in-service and pre-service teachers show that sometimes the

eTMs were unable to support teachers with common technical issues such as using the tablets or joining the online sessions. Teachers explained that they usually had to contact the eTMs themselves, and that those who were unable to reach them were often unable to join the meetings. Furthermore, teachers explained that they would like the eTMs to be more proactive, check in with them regularly and provide continuous technical support, especially when they faced challenges. According to one interviewee:

“

I found him good but not excellent. The other one (international e-trainer) was better. He didn't check in, rather you had to come to him. So teachers who didn't want to reach out had problems that were not solved.

(M5, IFG2)

It is worth noting that this was likely because during the time of this evaluation the eTMs were still in training for this first year of the course, and they were shadowing the international e-trainers, being mentored by them, and slowly taking on responsibility for delivering more parts of live sessions with feedback from international e-trainers.



It was observed within the online sessions that the eTM or international e-trainer would request for answers or responses from other people should one participant be dominating a conversation. Notably, the individuals who dominated the conversations tended to be men. This can be linked to there being more men in live sessions than women, reflecting the gender imbalance in secondary teacher workforce in Rwanda, where according to data provided by the Republic of Rwanda Ministry of Education, women teachers only account for the 34.8% of secondary school teachers in the country.⁵⁵ The eTM and international e-trainers would also support engagement by monitoring and encouraging participation in the breakout rooms. eTMs observed were slightly less effective at facilitating equal contributions than the international e-trainers. For instance, they would call on teachers by name less frequently. One eTM in particular allowed a discussion to be dominated by two teachers, and the international e-trainer eventually had to intervene to redirect the conversation. Two men eTMs were also observed to interrupt teachers whilst they were responding.

In terms of English language skills, several teachers reported that the eTMs lacked English language skills and sometimes they used Kinyarwanda which impeded participants from improving their English language skills. Some pre-service teachers also noted that the eTMs used complex English and spoke fast, which had a negative impact on their understanding and consequently their participation during the sessions. It was observed during the online sessions that eTMs provided feedback less frequently than the international e-trainers. Likewise, the feedback provided by eTMs tended to be more general, as opposed to the more specific comments made by international e-trainer. Additionally, eTMs missed more opportunities for clarification or feedback than international e-trainers. For example, they less frequently commented upon mistakes or misunderstandings.

Positive views of the role of the international e-trainers

As mentioned in an earlier section, for STELIR's online stage, the British Council partnered with the NILE who provided experienced international e-trainers to deliver the live online sessions to teachers and mentor eTMs. Most international e-trainers hold at least a post-graduate Diploma in Teaching English to Speakers of Other Languages (DELTA) and have global expertise and experience in delivering online training. All in-service and pre-service teachers across all focus groups expressed **positive views about the support they received from the international e-trainers.** More specifically, teachers explained that the international e-trainers were often competent in summarising the content of the sessions. All interviewees reported that the international e-trainers remembered the names of all participants taking part in the online sessions and encouraged everyone to participate, using individualised learning approaches. Findings across all focus groups indicate that teachers appreciated the familiarity that they had with the international e-trainer and the fact that they understood that some teachers found it challenging to communicate in English. In the words of two interviewees:

“

The international moderators were able to remember the names of everyone and this is a characteristic of a good teacher.

(W1, DFG1)

⁵⁵ Republic of Rwanda. Ministry of Education (2024). 2022/23 Education Statistical Yearbook. School Year Ended in July 2023. Available at: <https://www.mineduc.gov.rw/index.php?elD=dumpFile&t=f&f=99472&token=a77954c7ba4e20d300bc0de5ef3d2ad6e4772a58>



International e-trainer was excellent because she worked really hard, she asked questions, she followed the answers, asking why you are not participating, calling people with their names, and encouraged everyone to participate. Gave direct responses.

(M5, IFG2)

Additionally, during the online session, the international e-trainers made efforts to ensure that everyone engaged with the activities and contributed equally to the discussions. For example, by calling on individual teachers by name to answer a question or give a response, which happened in every session. Likewise, following breakout group discussions, the international e-trainer would often pick an individual from each breakout room to feedback to ensure a variety of voices were heard. Notably, both eTMs and international e-trainers would call on both men and women. It was also observed that both eTMs and international e-trainers were very positive and supportive towards the teachers. For example, many appeared to know all participants by name, would greet everyone warmly and thank them for their contributions. This was observed consistently throughout all online sessions.

Teachers expressed positive views around the English proficiency of the international e-trainers, including their speaking skills, vocabulary and pronunciation. For instance, a few teachers mentioned that their exposure to the international e-trainer had meant that they learnt the meaning and pronunciation of new words. Teachers further noted that their interactions with international e-trainers helped

them communicate with English speakers from other countries and better understand different pronunciations.

Teachers further highlighted the effectiveness of teaching methodologies used by international e-trainers during the online sessions, as well as other behaviours which aided understanding, such as using simple language. Consequently, most teachers reported that the international e-trainers helped them improve their English language skills and their confidence in speaking English.

In-service and pre-service teachers appreciated the supportiveness of international e-trainers, including related behaviours such as their use of praise and encouragement. Relating to this, many teachers expressed and valued that the international e-trainers had made efforts to get to know participants and knew everyone by name. Finally, the international e-trainers time management and organisation skills were also highlighted.



The international moderator challenged me to learn more English, they were very supportive.

(M1, IFG3)

With regards to the live online sessions, eTMs reported that it was helpful to meet with the international e-trainers. They explained that the international e-trainers were useful role models for eTMs to imitate, for instance with respect to their accent and pronunciation. eTMs also mentioned that they benefited from shadowing the international e-trainers, as they enjoyed their teaching methods and felt that they learnt a lot from them.

Within the observed online sessions, international e-trainers demonstrated that they were aware of issues surrounding attendance and made efforts to try and support attendance where possible. For example, one international e-trainer commented that they had sent a reminder for the online sessions. The same international e-trainer noticed and expressed concerned about the low number of teachers in the session by asking if there was a conflicting event that teachers were attending. Therefore, across all stakeholder engagement activities, international e-trainers were found to be very attentive, aware of the challenges that teachers faced, and were keen to resolve any potential issues.

Teachers who responded to the survey were asked to rate the support they received from the eTMs and the international e-trainers during the online sessions. Most teachers reported that the support they received from the eTMs was very good (50%), followed by some teachers who reported that they found the support that they received from the eTMs good (39%), and a small number of teachers who reported that they found the support they received from the eTMs satisfactory (10%). Additionally, most teachers reported that they found the support from the international e-trainer very good (61%), followed by some teachers who found the support from the international e-trainer good (32%), and a small number of them who found their support satisfactory (7%).

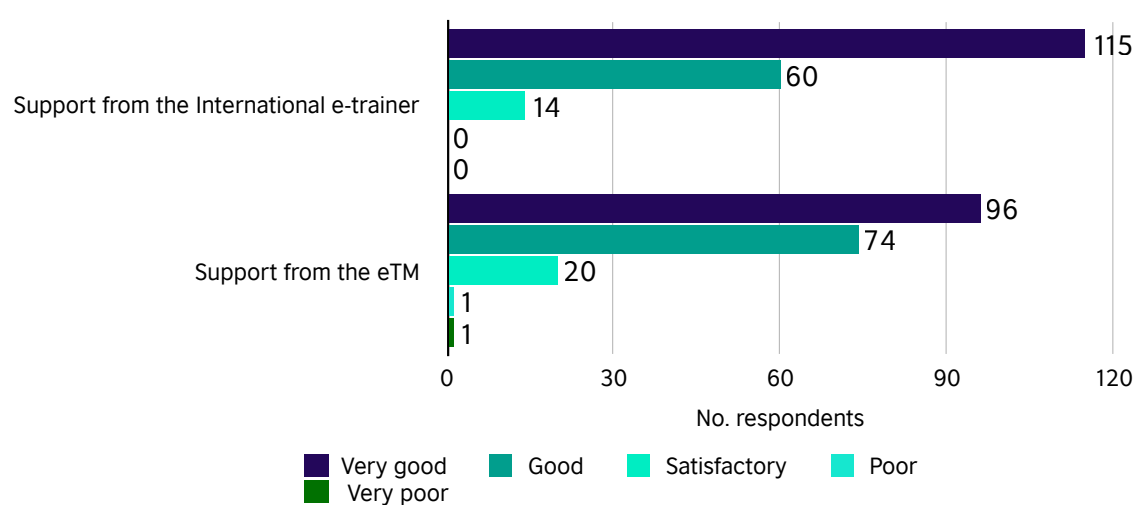


Figure 10: Teachers' reported views of the support they received from the eTMs and the international e-Trainers

Additionally, teachers who responded to the survey were asked to comment on further support that they would like to receive from the eTMs and the international e-trainers. As indicated by the survey findings illustrated in the figure below, most teachers mentioned that they would like to receive further support from the eTMs around inclusive teaching training techniques (11 respondents). From the international e-trainers, most teachers indicated that they would like more follow-up and support after the online sessions have finished (114 respondents).

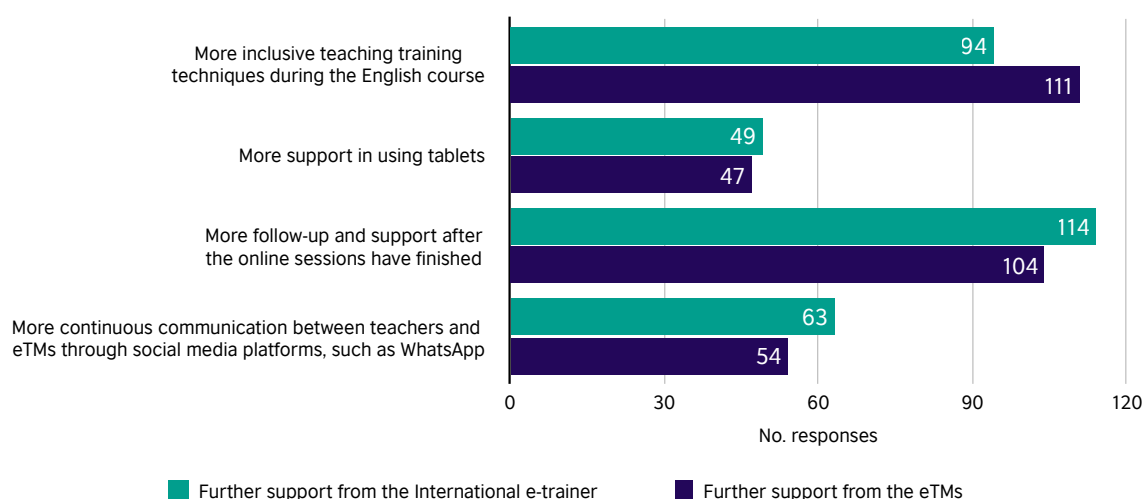


Figure 11: Teachers' views of the types of further support they would like to receive from the eTMs and the international e-Trainers

eTMs' positive views of the NILE course

Prior to the online sessions of the STELIR course, 85 teachers and tutors were selected to train as eTMs to support teachers during the online sessions. The training involved a seven-week online course with the Norwich Institute for Language Education (NILE), which included moderating asynchronous courses and teaching live online courses. All participants trained as part of the NILE course served as eTMs in the STELIR course, delivering online sessions.

eTMs across all focus groups reported that the NILE course had been successful in preparing the eTMs to teach online. In particular, eTMs reported that they enjoyed the content of the course as well as the fact that the course had enabled them to develop digital skills. They

mentioned that they learnt how to use Webex and how to upload a video. Other positive aspects of the course that were frequently highlighted by eTMs include the teaching methodology, activities, and the way the course was structured, with participants in one group adding that they found the international trainers to be very active. All participants agreed that all aspects of the course were both necessary and helpful.

4.1.2 Reported challenges

In addition to the positive perceptions and experiences reported by participants, many teachers also expressed facing challenges. Indeed, most teachers who completed the survey – both in and pre-service teachers – reporting having faced challenges in attending and participating in the face-to-face and online sessions (63%).

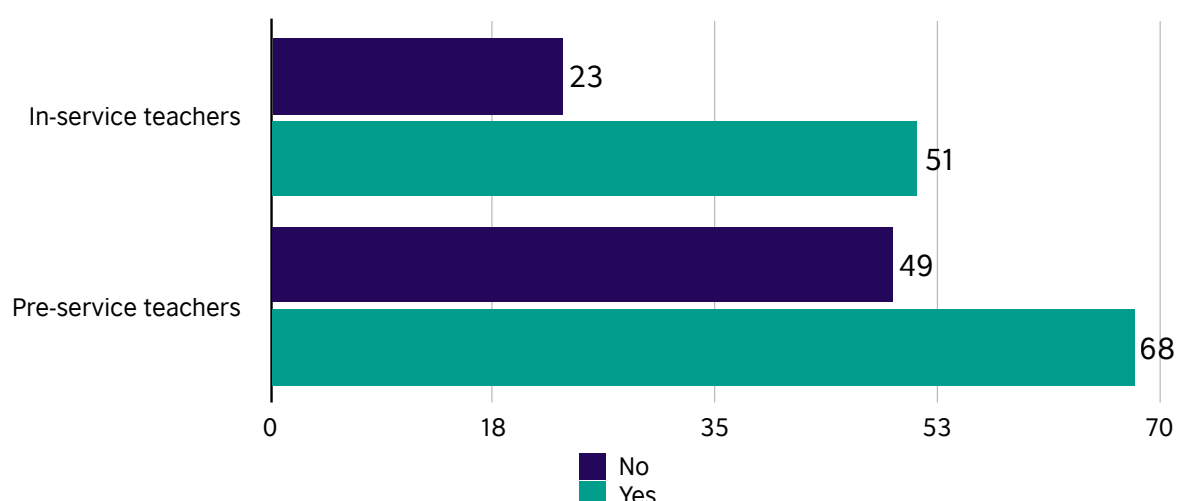


Figure 12: Pre-service and in-service teachers' views on whether they faced any challenges in the face-to-face and online sessions

Data from across all stakeholder engagement activities conducted – including the survey and focus groups with in-service and pre-service teachers (including WTs and TWDs) and focus groups with eTMs– highlighted the following as the main challenges teachers faced:

- internet connectivity issues
- limited data bundles
- challenges around the timing of the online sessions
- challenges with in-service teachers' workload and responsibilities
- challenges in using the tablets
- climate-related disruptions
- mixed levels of participation in the virtual breakout rooms

- challenges concerning the difficulty level of the online sessions
- lack of follow-up after the completion of the online sessions

Each of these challenges is explored in more detail below.

Internet connectivity issues

The pre-service and in-service teachers, eTMs interviewed highlighted that the most prominent barriers to accessing the online sessions were internet connectivity issues (covered in this section) and limited data bundles (see below).

As indicated by the survey results below, most survey respondents reported facing technical issues, such as limited internet access (76 respondents, 38% of total responses).

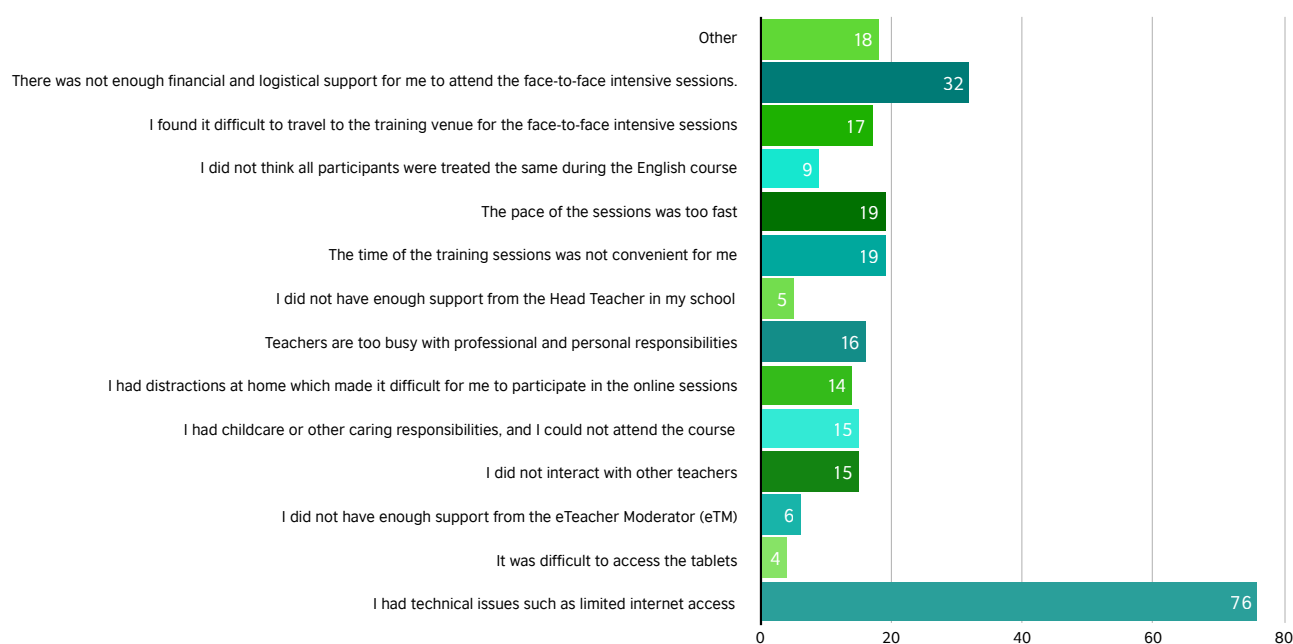


Figure 13: Teachers' views on the different types of challenges they faced in attending and participating in the face-to-face and online sessions

Many teachers, especially those living in rural and semi-rural areas, faced significant disruptions to their internet connectivity, preventing many from accessing some online sessions and actively participating in breakout room discussions. It was also reported that electricity can be limited in teachers' own homes, with some trying to use solar panels to generate electricity, but not always successfully. This – and network issues in general – were seen by all as common (though frustrating) issues in Rwanda:

In the words of one interviewee:

“

I don't like how – especially this is caused by issues like network, there is not anyone who is causing that issue in our learning process – but something that is challenging is when I cannot attend because of the network issues. It is an issue with our country, it is not an issue of the course or how the programme is prepared but it was challenging.

(M2, PFG3)

“

In the online sessions we had connectivity issues. In the region here there are problems of internet connectivity so some people could not attend the training because of connectivity issues.

(M2, IFG7)

“

We faced network challenges. When we can return to the meetings, we have forgotten or missed things. This means that we have lower grades because of the network issues. When we attend whilst we are at the university, we had the opportunities. But when we are away from the university, we might be in the mountains or other rural areas, and that makes it more difficult to get network connection.

(M1, PFG1)



The limited internet connectivity and network issues, thus, often impeded teachers' active participation and engagement in the online sessions, having a negative impact on teachers' learning and development. Some eTMs interviewed highlighted that failing to attend the live sessions due to limited internet connectivity sometimes led to lowered self-confidence or even shame being experienced by those affected.

“

One challenge included low self- confidence due to the failure to attend live session.

(All participants, EFG1)

The observations of the online sessions supported these findings. In the online sessions observed, many teachers were unable to respond when called upon, or could not be clearly heard due to a poor connection. The former, in particular, was a frequent occurrence, happening multiple times in every observed online session. When a teacher did not respond, it was usually attributed to technical or connectivity issues. Another potential reason for the low participation of teachers during the live sessions is teachers' unwillingness to respond to questions because of their fear of making mistakes. This was particularly observed in a couple of break out rooms where participants did not participate or interact with each other. In some cases, the eTMs themselves experienced technical issues, resulting in the international e-trainer having to cover their part of the sessions.

As indicated by the survey results presented above, the vast majority of teachers noted that they faced technical issues such as limited internet access of varying degrees at some point during the 20-week course (76 respondents).

Limited data bundles

Focus group participants mentioned being provided with a data bundle of 5GB per week as part of their STELIR course. Most pre-service and in-service teachers across all focus groups explained that the data bundles were not sufficient to cover all of their learning needs – namely, accessing the online sessions, accessing and downloading the self-study materials, and conducting the self-study assignments. Additionally, participants reported that they sometimes wanted to access other platforms – e.g. YouTube – to conduct additional research (e.g. either to improve their English skills or their teaching practices), but the data bundles were not enough to cover independent research (nor did the tablets provided allow for certain educational apps to be downloaded). In the words of an interviewee:

“

The bundles that BC gave were limited for some platforms and we could not access them. There were really few, you connect before the session was ended, the bundles were so few and not enough compared to the work that we had to do. When the bundles ended, the access to the training ends there, until they give you more bundles.

(W1, IFG5)

Challenges around the timing of the online sessions

Another key challenge highlighted by most in-service and pre-service teachers across all focus groups was the **inconvenient timing** of the online sessions.

In-service teachers explained that the online sessions were usually conducted on weekends, which is a time when most teachers have other commitments and responsibilities – such as family and household responsibilities, visits and social events (such as weddings, funerals, social activities, going to church). Additionally, several in-service teachers mentioned that they have other jobs and businesses which they run over the weekends – meaning their participation in the online sessions meant a temporary loss of business and income (as they received no compensation for the time spent on training). At times, in-service teachers mentioned having to miss some online sessions due to other responsibilities and commitments. When asked about potential alternatives, most teachers suggested instead having protected time for teachers during the school week to dedicate to their CPD.

The eTMs agreed that the timing was challenging, because people often have other commitments on the weekends. This was felt to set barriers to teachers' active participation in the breakout rooms, as they had other distractions at home or in the alternative places, they were joining the online sessions from. Some in-service teachers mentioned that the timing of the training was inconvenient for them as they had to forego income generating activities and therefore lose income in order to attend the online live sessions which were conducted on the weekends. In the views of one interviewee:

“

Normally in the weekend teachers are busy and have other responsibilities. I didn't find motivation to attend the training on the weekend. I do business on the weekend, so it is a lot to have training as well.

(W1, IFG3)

“

The time of the training was good but there was a challenge. What we do as extra activities, we have extra jobs apart from teaching and there is no motivation such as money so sometimes teachers need some incentives to be able to attend.

(M1, IFG3)

In the case of pre-service teachers, the online sessions were conducted at the same time as other academic programmes and activities, and during the weekends, which they usually dedicate to studying. As such, several pre-service teachers mentioned that they found it challenging to attend the online sessions while participating in other academic programmes and courses and having assignments for multiple different courses. They explained that the other academic courses often interfered with the self-study of the REB material and assignments that they had to conduct for the online sessions of the programme:

“

It was challenging. I disliked that the courses were given whilst we had other academic programmes.

(W2, PFG2)

eTMs interviewed also noted that attendance and participation in the online sessions was sometimes low because the sessions conflicted with the period of examinations that are a part of pre-service teachers' studies. In these cases, when sessions conflicted with busy periods in the academic calendar such as exams, catch up sessions were offered by STELIR to pre-service teachers at a later date.

During the online sessions observed, not all participants attended the sessions, or attended for the entire session. For example, some participants joined the meeting late – after the introduction or first activities had taken place – and others dropped out part way through the meeting. In one meeting in particular, many teachers were absent as they were attending a conflicting event at their college. In this case, as the attendance was particularly low due to a significant conflicting event, teachers were given the opportunity to attend catch up sessions at a later date. The number of teachers in attendance subsequently varied both overall and throughout the meetings themselves.⁵⁶



In-service teachers' increased workload and responsibilities

Concerns were also raised by **in-service teachers concerning their own workload, busy schedules and responsibilities** – often experienced as barriers to their active participation in the online sessions. In the focus groups, in-service teachers shared that, after the school day ends, they usually need to assess students' assignments and homework exercises, as well as prepare lesson plans for the following day/week, making it challenging to find time for their own assignments. This also indicates that having the live sessions on the weekdays would also likely be inconvenient for teachers:

“

We have a big number of students. It's very difficult to find time. We are very busy, very occupied with teaching and assessments, so we spent all night doing the exercises, otherwise we couldn't do them.

(W3, IFG4)

Challenges in using the tablets

Teachers' lack of familiarity with online learning and the use of tablets often presented a barrier to their participation in the training. The focus groups with in-service and pre-service teachers, eTMs revealed that, often, teachers faced issues when using the tablets, particularly around joining online sessions, muting their microphones, joining the breakout rooms, using the internet, and controlling their sound and video.

Although they could (and did) request support from eTMs and other teachers when such challenges occurred, the time spent on fixing issues sometimes meant they had to miss parts of or entire online sessions, missing out on the benefits of live learning and breakout rooms:

“

It was challenging because it was hard to use the tablets. In the beginning, they had to learn how to use the tablet and work together, the teachers live far away from each other, so it was difficult to come together to help each other to learn how to use it.

(M1, IFG5)

⁵⁶ It is worth noting, however, that the number of participants was not always visible for each online session recorded.

“

For me, I knew how to use it [the tablet] but some others did not know how to mute, to stop, because there was no time. Our trainer was in the telephone with the British Council. Some people were not familiar with this, and the trainer had to find specific time to help them mute and help them with technical skills. The majority of the teachers were not familiar with the tablets.

(W1, IFG7)

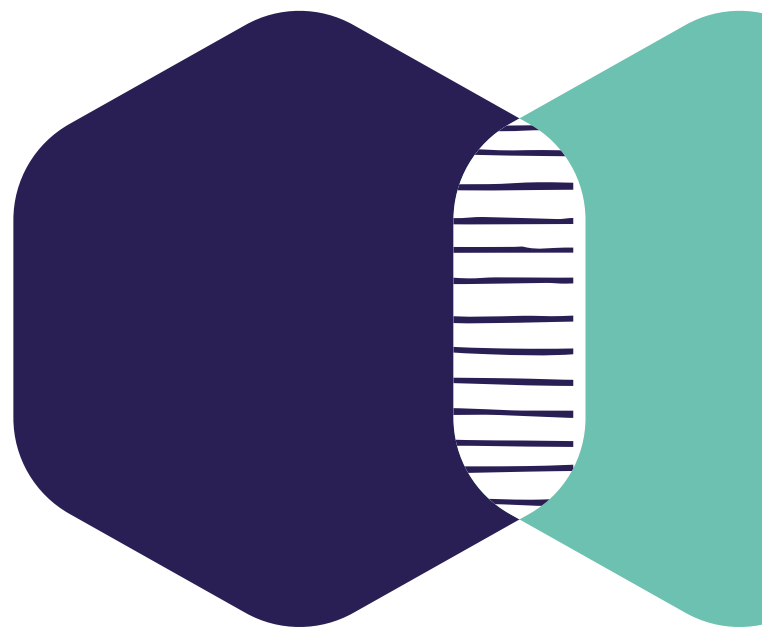
All eTMs agreed that teachers with limited digital skills faced challenges when participating in the online learning course. A challenge recognised by all interviewees was that teachers with limited digital skills were occasionally unable to join in the online sessions, with some eTMs noting that some teachers were absent from the first three online sessions for this reason – affecting their level of confidence in speaking English as well as in their digital capabilities. Some eTMs highlighted that teachers with limited digital skills were sometimes delayed in the submission of their assessments. According to information provided by the STELIR team of the British Council, digital skills and learning how to participate and use digital devices was an expected challenge at the beginning of the online course. For this reason, the STELIR team made sure that extra support is provided to all participants in the early weeks of STELIR's online stage.

The observations of the online sessions corroborated the above. In a few sessions, teachers were observed to unmute themselves accidentally, meaning background noise could be heard in the meeting. This influenced the experience of teachers either by causing a distraction or by directly preventing them from responding or listening to what was being said.

Notably, however, eTMs and international e-trainers appear to be very aware of the technological barriers that teachers faced and were supportive of them facing these barriers where possible. For example, if a teacher was unable to respond due to technological issues, the eTMs and the international e-trainers would often try and involve that teacher again later on in the session.

Climate-related disruptions

Several in-service teachers mentioned climate-related disruptions as another challenge to their effective participation in the training. Interviewees explained that the heavy rain that occurred whilst the training took place (due to the extended rainy season) caused a lot of noise, meaning it was often difficult to hear the online sessions. Additionally, when it rained heavily, many in-service teachers highlighted that they faced internet connectivity issues, as the internet can be very unstable during those times, particularly in rural areas. This was also evident in the online sessions observed, where one teacher who was able to unmute themselves mentioned that they could not hear the questions asked by the eTM and the international e-trainer because of the heavy rain:



“

Network problems because it was in the rainy season, sometimes the network was off during the rainy season, and it was difficult to discuss and participate in the online training. Once the network challenges are gone and overcome then the online training would work well.

(W3, IFG7)

“

In rural areas, connection is very difficult to find, but in urban areas, there is connection, still when it's raining. When it was raining, we didn't have internet.

(W2, FFG1)

Mixed levels of participation in the virtual breakout rooms

Another challenge mentioned by several pre-service and in-service teachers and eTMs was the mixed levels of participation in the online sessions and the breakout rooms. Several in-service teachers mentioned that, because levels of participation were mixed (potentially due to the challenges above mentioned – e.g.

internet connectivity issues, distractions at home, limited digital skills, participation in other academic courses, difficulties in hearing due to rain, etc.), it was sometimes hard for teachers to effectively collaborate and share ideas. As a result, several teachers mentioned that they sometimes missed the dialogue and opportunities to interact with each other.

In the online sessions observed, comments from eTMs and international e-trainers suggest that participation in breakout rooms was similarly limited for some teachers. For example, in multiple sessions, the eTMs and international e-trainers who had attended the breakout rooms would provide feedback to the wider group encouraging more participation and expressing the importance of turning the microphones on. One eTM in particular said “one breakout room was silent, which means that they did not participate in the breakout rooms!”. One teacher commented “my group didn't participate but I have my own ideas”, further suggesting that participation in some breakout groups was low. However, it is important to note that eTMs, international e-trainers and teachers themselves would feedback on the discussions taking place in the breakout rooms during the whole group discussion following the breakout room task. As such, it can be inferred that teachers participated to varying degrees.

Participation levels in breakout rooms seemingly depended not only on an individual teacher's ability to interact, but also relied on the other members of the group. In some cases, some teachers were willing to participate, but everyone in their breakout room was silent so they had no one to interact with. Therefore, this indicates that other factors that might have impacted teachers' participation in the virtual breakout rooms include teachers' confidence and motivation to participate. Additionally, WTs reported that due to the timing of the online sessions which overlapped with other childcare and domestic responsibilities and the distractions they experienced at home as a result of these, they found it challenging to participate in breakout rooms (see section 4.2.1). Furthermore, TWDs, and particularly VITs reported that



because eTMs and international e-trainers were not aware that there are visually impaired participants in the online sessions, they often forgot to assign them to virtual breakout rooms (see section 4.2.2).

Challenges concerning the difficulty level of the online sessions

Some in-service teachers felt the content of the course was (too) low/easy, especially for lower secondary English teachers. It was felt that this might have been to ensure the training was accessible to teachers of all LSTs across all subjects, covering basic topics such as transportation, and hobbies, which some English language teachers found too basic for themselves. Therefore, several English language teachers reported that they would prefer it if the content of the training had been more advanced for them, to allow them to further develop their English language knowledge and skills. Other in-service maths or science teachers reported that the online sessions were difficult for them. For this reason, they suggested arranging subject-specific training sessions first, followed by mixed-subject sessions where they can interact with English language teachers to further improve their skills. However, it is worth noting that teachers were placed in groups according to their English language proficiency across the four skills (reading, listening, speaking, writing) assessed in the Aptis test. Therefore, it is evident that the STELIR team at the British Council made significant efforts to group participants based on their English language level, however some participants still felt that the content of the sessions was either too easy or too difficult.

Lack of follow-up after the completion of the online sessions

Several in-service and pre-service teachers interviewed mentioned the lack of follow-up and continuous support after the completion of the online course as a barrier to the impact and sustainability of the training. Interviewees noted that they would like to receive more opportunities to further develop and practice

their English language knowledge and skills, and it was felt that the lack of follow-up and continuous support after the completion of the online sessions would reduce the impact of the training on their learning and development. This potentially indicates that some teachers did not see the link between Stage 3 of STELIR (school-based CPD) and the weekly skills sessions delivered by SBMs after their participation in Stage 2 (online) in the same way they saw the connection between Stage 1 (face-to-face) and Stage 2 (online).

4.1.3 Reported suggestions for improvement and additional support

To address those challenges, participants across the different stakeholder engagement activities provided several suggestions for improvement of the STELIR course or similar teacher training initiatives. These included:

- providing additional support around English skills and digital literacy
- ensuring teachers' continuous interaction after completion of the training
- ensuring teachers have protected time to participate in the training
- increasing data bundles, and ensuring internet connectivity and infrastructure are in place
- providing incentives and certification after the completion of the course
- increasing the number of international e-trainers and promoting international collaborations
- rearranging the training groups based on in-service teachers' subject
- providing post-assessment feedback and additional information on course assessment.

Providing additional support on English skills and digital literacy

When asked to comment on any suggestions for improvement or any additional support needed, most pre-service and in-service teachers, eTMs across all focus groups expressed that they would like to receive continuous and follow-up support on both English language and digital literacy.

In particular, most teachers reported that they would like continual access to the course materials following the completion of the training, allowing them to revise specific units and topics and refer back to these whenever needed. Several in-service and pre-service teachers explained that this is because after the completion of the online stage of the course, they do not have access to the STELIR tablet and data bundle anymore. In the words of one interviewee:

“

Now that we have finished, we have not got the resources. Even now, we need to make revisions, to see the platform. There might be some unit that you want but it is difficult to access.

(W1, PFG1)

In terms of English language skills, interviewees highlighted that this can be achieved by disseminating soft or hard copies of the resources used during the online training so that teachers can continue to develop their speaking and listening skills. Some teachers also suggested that resources could be made available to teachers by uploading the STELIR course materials to YouTube. It was felt that post-training access to materials and the ability

to come together as a group to practice (see following section) could help them to continue improving their English language skills:

“

If we have the materials, we can just improve our speaking and listening skills and getting new vocabulary, mainly in speaking and listening more materials are needed to practice speaking and listening.

(M3, IFG2)

“

Speaking activities, we would like more speaking activities and listening activities that we need for using English. We have a problem at speaking skills, we are good at writing but not good at speaking....

(W1, IFG5)

Regarding digital skills, most in-service and pre-service teachers noted that they would like to receive more training on digital literacy and to keep the tablets for a longer period of time. It was felt that this would allow the teachers to continue developing their digital skills, including through the use of other platforms that facilitate learning. Some in-service teachers also mentioned that they would like to keep the tablets to use them for their own teaching and to conduct research, both of which it was felt would improve their teaching practice.

“

After training teachers should be able to keep the tablets. They get used to using the tablet which is hard when they then take it back. And it meant that you can't apply what you learnt in the training.

(M1, IFG4)

”

YouTube was on the tablet but was not working. YouTube is helpful for teaching, we could show videos or find videos for teaching. It would be better if we were able to keep them and continue to use them. If they were helping us, then it would be helpful. I would first use the tablet to continue to improve my digital skills. It would also be used for research, videos, to find answers. Helpful to continue learning.

(M1, IFG6)



Discussions with the eTMs supported these findings. More specifically, eTMs suggested that teachers with limited digital skills may need additional training, increased induction time and the provision of a tablet early on to increase their familiarity with it prior to the start of the online training. They also suggested that all teachers should ideally keep the tablets at the end of the training to continue developing their digital skills.

Overall, it is important for teachers' continuous development and learning that they have some level of access to digital devices and tools on a day-to-day basis. Additionally, training teachers on the use of other applications (e.g. YouTube, Google Meet, Microsoft Teams) was considered valuable to allow teachers to engage in further CPD and improve their own teaching practices. Furthermore, some teachers expressed that they want to be able to download other applications to their tablets during the course so they can practice their knowledge and digital skills and learn to use other online platforms:

“

We are not able to buy smartphones or laptops. Is there a way for the teachers who do have them to use the devices to learn English? Or it might have been, is there a way to access the course without devices because the tablets have gone?

(M1, PFG1)

Ensuring teachers' continuous interaction after the completion of the training

Most of the in-service and pre-service teachers reported that they would like to continue interacting after the completion of the training. One group of in-service teachers from the same school noted that, following the online sessions, they incorporated discussions about the programme within their weekly CPD sessions in their school. They explained that this has helped them continue discussions between teachers, allowing them to practice their English-speaking language skills, and discuss potential challenges.

“

We have CPD sessions where we discuss. After attending the BC training our English has been improved and now, we have the CPD sessions to increase the self-confidence to express ourselves. We have CPD sessions every week once a week on Wednesday.

(W2, IFG3)

As illustrated in this quote and reported by several interviewees from the same school, it is evident that these teachers were implementing the Stage 3 of the STELIR course which includes the in-person weekly CPD sessions led by SBMs at schools. This stage aims to provide follow-up support to teachers after the completion of the online stage of the STELIR course. Therefore, creating mechanisms that would allow participants to continue interacting after the training was considered an essential precondition for longer-term impact and sustainability of the training.

Ensuring teachers have protected time to participate in the training

As mentioned above, one of the biggest challenges teachers faced in participating in the online sessions of the course was the online sessions being hosted on weekends. When asked about potential alternatives, most teachers suggested instead having protected time for teachers during the school week to dedicate to their CPD. They explained that conducting the training while at school would allow teachers to concentrate on their learning and development without the distractions they often encounter home, increasing interviewees their active participation in the training:

“

I had the modules from REB, but I have read like 1 or 3 papers. If you have time, actual CPD time, it can be used for this preparation, for this improvement of language, all activities for improvement of English. It would be better if we had dedicated time to work on the activities.

(M2, IFG4)

Alternatively, some in-service and pre-service teachers suggested arranging the training over the holidays, when teachers have more free time – although this was not a popular solution for others who may have other responsibilities and commitments over their holidays. Overall,

however, there was a consensus that ahead of any future online, it would be beneficial to consult teachers to ascertain the times that are most convenient for most people. Pre-service teachers also suggested that the British Council coordinates with universities regarding the timing of the online sessions and assessments of the STELIR course on one hand, and the university courses on the other, to allow pre-service teachers to be more attentive in the STELIR course.

A need for revision of the session timings was also highlighted throughout the focus groups with eTMs. More specifically, it was suggested that the live sessions on weekends should take place over the holidays or be reduced in number. Further common comments around timetabling mentioned by the eTMs include that there should be increased collaboration between the British Council and the URCE to harmonise the appropriate time and activities for lecturers. Several eTMs felt that there should be increased flexibility in timetable and decision-making, and it was mentioned that eTMs would like to have a say over their own availability.

Increasing data bundles, and ensuring internet connectivity and infrastructure are in place

In-service and pre-service teachers, eTMs who participated in the focus groups unanimously commented on the need to strengthen internet connectivity, facilities and infrastructure, and to increase the data bundles provided to the teachers. Participants explained that strengthening the capacity of the network is needed to allow every teacher to join consistently for every session and actively participate in the online stage of the STELIR course. Specifically, pre-service teachers suggested improving the internet connectivity and providing additional digital support especially for teachers in rural areas, where the internet connectivity is usually unstable.

Furthermore, some teachers highlighted that the provision of additional data bundles would allow them to download more material and resources from the REB website. Other interviewees suggested providing teachers with unlimited data bundles and internet access or, alternatively, have the internet be split into 3GB across weekdays and 2 GB for the weekend – as often they would use up their data before the weekend arrived, and could not attend the live online sessions on the weekends. According to one in-service teacher:

“

There was limited internet data, because the data finished on Friday and we still had the weekend to work on the online training, so it will be good to have unlimited data.

(W1, IFG7)

Providing incentives and certification after the completion of the course

Financial rewards and certification were also some additional suggestions mentioned by most in-service and pre-service teachers, with all participants agreeing that they would like to receive a certificate of attendance after training completion as this is important for their career development and progression. According to one interviewee:

“

We would like to receive a certificate for the training we have completed – certificates are very important for the CV.

(M1, DFG1)

“

We would like to get a certificate for the training, we can use it to get a better job. It can be proved that you know well English.

(W3, IFG4)

Moreover, some in-service and pre-service teachers mentioned that they would like to receive some form of financial incentive to participate in the training or compensation for time ‘lost’ while participating in the training. The focus groups with eTMs also suggest that incentive and motivation for the online sessions of the training were lacking, and they could be increased for both teachers and eTMs. In the words of one interviewee:

“

On the online process, if there was financial support so that we become motivated. When there is motivation, everything is easy.

(M2, IFG6)

Increasing the number of international e-trainers and promoting international collaborations

Some in-service teachers felt that some of the eTMs were not as motivated as the international e-trainers sometimes, lacking the same confidence in speaking in English. As such, although most teachers saw a role for both the eTMs and the international e-trainers, some teachers would like more interaction with international e-trainers who are native English language speakers, particularly around grammar, vocabulary and pronunciation. As mentioned above, this is potentially due to teachers' bias in favour of international e-trainers which is possibly linked to the stereotypical views around the notion of 'the native speaker'.

“

We wish, for upcoming sessions, we would like the international teachers to run more sessions. I myself can train if you give me some materials... but the trainee can't benefit as much, because of my accent, my pronunciation, it's not as good as that of the international trainer. We want the trainers to be native speakers.

(M1, IFG4)

In addition, some pre-service teachers noted that they would like more opportunities to collaborate with other teachers from other countries. They explained that this would support them with improving their English-speaking skills, improving pronunciation, and enhancing their confidence in communicating with others in English. According to one interviewee:

“

I wish to communicate with others. For example, in the unit of tourism, the students could go away and speak with others from that country. It would be good to go somewhere and get some experience, or other experiences like that.

(W2, PFG1)

Rearranging the training groups based on in-service teachers' subject

Several in-service teachers also suggested that they would like to have separate training groups for teachers from different subjects. For example, one training group for lower secondary English language teachers, one training group for science teachers, one training group for mathematics, etc.

As mentioned in the challenges section, some English language teachers explained that they often found the content of the training too easy, although the tested at the level requiring training. They explained that they would have liked to receive more advanced training. At the same time, several science teachers mentioned that they sometimes found the content of the course difficult. As suggested, there could be benefits from splitting the training groups into subjects:

“

The content was somehow difficult because we were in mixed subjects. It was very difficult so I would like to have separate groups one for English teachers and one for science teachers, so it is easier.

(W3, IFG3)

That said, some science teachers noted that the mixed abilities of those in their group meant that they learnt a lot from more experienced colleagues. Discussing this in more detail, teachers agreed that there are also benefits of perceived mixed-ability and confidence training groups, and a model that mixes both – e.g. training separate by subject, followed by mixed-subject training to allow teachers with different English language levels to interact – might be a good model.

Providing post-assessment feedback and additional guidance on course assessment

Finally, the focus groups revealed that teachers would like to receive further feedback from assessments, with several pre-service teachers mentioning that, due to the lack of feedback received, they did not know whether they had reached their learning targets. They also explained that they would like to receive clearer and more transparent guidelines on the assessment of the overall training, so that they can better recognise their strengths and areas for development.

Some in-service teachers also noted that, for their formative assessments, they often already had the answers to the questions, so it was too easy for them to complete the assessments. However, this did not help them improve their knowledge and skills. According to one in-service teacher:

“

Feedback should be available at the end of marking. The best way to get feedback is after submission, in this case we didn't have any feedback. We had the answers to the questions, so we could all get 100%, even though my head is empty. After grading, then you show the answers [not before].

(W1, FFG1)

4.2. Equity and Inclusion

This section focuses on WTs and VITs perceptions of the online sessions of the STELIR course. More specifically, it sheds light on WTs and VIT's reported positive experiences, challenges, and suggestions for improvement of the online aspects of the course.

4.2.1. Women teachers

Reported positive experiences

Both WTs and men teachers participated in the stakeholder engagement activities such as the interviews, focus groups and surveys reported several positive experiences related to their attendance and participation in the online sessions of the STELIR course, as presented in section 4.1.1. Additionally, in all observed sessions both men and women answered questions. Likewise, many teachers volunteered themselves to answer questions or to provide responses, including both men and women.

Reported challenges

Teachers who responded to the survey were asked to comment on whether they faced any challenges when attending and participating in the online sessions of the STELIR course. As illustrated in the figure below, survey findings show that a higher proportion of men teachers than WTs reported facing challenges in attending and participating in the online sessions.



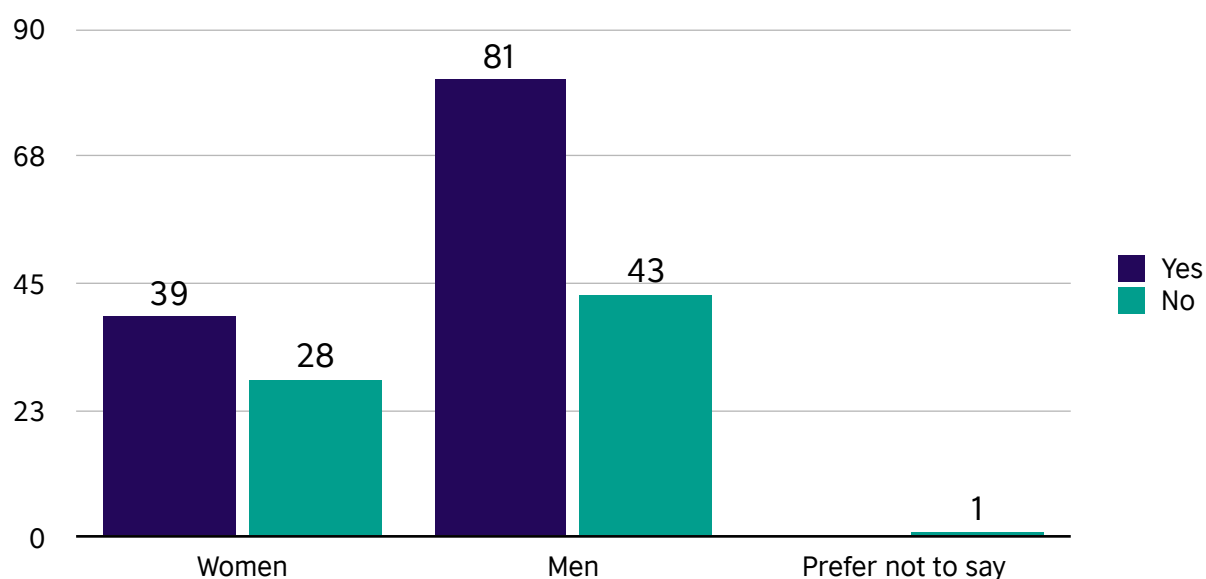


Figure 14: Teachers' views on whether they faced any challenges in the face-to-face and online sessions disaggregated by gender

WTs' perspectives around online learning varied. Some WTs reported that they enjoyed online learning and expressed a desire to use it for CPD purposes in the future. That said, most WTs reported preferring – and learning more from – face-to-face training due to the challenges they often face with the online modality. These challenges reported included:

- for in-service WTs, the timing of the online sessions often clashing with other responsibilities, such as childcare
- the additional workload of online learning being difficult to reconcile with existing responsibilities
- for in-service WTs, the distractions at home disproportionately impeding women teachers' active participation in the online sessions
- challenges faced using digital tools
- for pre-service WTs, the timing of the online sessions often clashing with other academic courses.

For in-service WTs, the timing of online sessions often clashed with childcare responsibilities

By far the biggest challenge identified by in-service WTs as a barrier to their participation in the online training was the timing of the online sessions. The interviews and focus groups with in-service WTs revealed that the timing of the sessions – which took place at lunchtime, in the evenings, or at the weekend – was inconvenient because WTs were often occupied with other activities during those times, such as household chores and childcare. One WT expressed that the weekend was the only opportunity to attend social events, as she works full-time during the week. Another WT added that she had to make sacrifices to attend the training by missing planned events, which she found very challenging. Furthermore, several WTs mentioned that having the online sessions during lunchtime was challenging for them as this is the time when they usually feed their babies. In the words of one interviewee:

“

My group was starting at 1:30pm, during that time I was very occupied with my home activities and taking care of the children, going to the market. [...] Another example, during Sunday, those who are Christian go to pray, they chose a time on Sunday when I was at the church. It was difficult to follow the online sessions and the online activities.

(W1, FFG1)

“

Women teachers attended on moderate extent because the timing was not favourable for example weekend, lunch time and evening.

(W2, EFG2)

According to information provided by the STELIR team, after the challenge with the lunchtime sessions was identified, the timings of the training were adjusted according to the timing suggestions received via the women's support WhatsApp communities. Following the suggestions provided by the WTs, adjustments around the timings of the live sessions were made after week 5 of the online stage when this was identified.

The additional load of online learning was difficult to reconcile with existing responsibilities which disproportionately impeded women teachers' participation

Although both men teachers and WTs reported that they struggled to find the time to take part in the online sessions as highlighted in an earlier section, WTs reported that they found online learning particularly challenging given the various **conflicting responsibilities they had to balance which disproportionately impeded WTs' participation in the online sessions**. For example, some WTs mentioned that a major challenge was to combine online lessons with their household and family responsibilities. Some WTs reported that it was hard to find the time to study and prepare ahead of the online lessons because they have a high number of students and are busy with teaching and assessments – meaning that the only time they had to work on their online assignments was late in the evening:

“

It's very difficult to find time. We are very busy, very occupied with teaching and assessments, so we spent all night doing the exercises, otherwise we couldn't do them.

(W3, FFG4)

As such, a major challenge for WTs was finding the time for online learning alongside their many personal and professional responsibilities and commitments, particularly as the timing of the live online sessions tended to overlap with when WTs were occupied with these activities. The focus groups with eTMS also corroborate these findings, with several eTMs mentioning that participation among WTs was often reduced due to responsibilities such as household chores and the inconvenient timing of sessions.

“

Women teachers attended on reduced extent because of household chores.

(W1, EFG2)

For in-service WTs, distractions at home often disproportionately impeded women teachers' active participation in the online sessions

The interviews and focus groups with in-service WTs revealed that when WTs took part in online learning at home, they often faced distractions or disturbances to their learning. For example, WTs reported that they were often distracted by childcare responsibilities or were interrupted by unscheduled visits (e.g. family, neighbours, friends, etc). As such, they felt that they learnt more from face-to-face training because there were fewer distractions, and they were not disturbed during their learning. In the words of one interviewee:

“

Even the responsibilities of the family, because I had a baby of 1 month and a baby of 2 years and a half to care of for the family while doing the training, it was very challenging.

(W1, IFG5)

“

It was very challenging because there are a lot of things I had to do to attend the training, I had to prepare the food, to feed the kids... they said to open our cameras, but it was difficult because we were doing different things.

(W1, IFG7)



As evident from this quote, several WTs faced significant distractions and interruptions whilst attending the online sessions, which interfered with their online learning. Notably, a WT felt that the speaking aspect of the training was particularly affected. Since the online assignments they had to complete focused predominantly on developing listening and writing skills, it was only during the virtual breakout rooms of live online sessions that participants could practice their speaking skills. As such, when this was not possible or interrupted due to distractions at home – e.g. children requiring attention during live sessions – they had limited opportunities to interact with other participants and practice their English-speaking skills. More specifically, several WTs explained that it was challenging for them to fully attend breakout room sessions because should their babies start crying, they would need to leave the group so as not to disturb others. Therefore, distractions at home often impeded their active participation in the online sessions, resulting in missed opportunities to practice their speaking and listening skills and communicate with other teachers:

“

We had to make sacrifices to attend the training. If we already had activities planned, we had to miss them. It was very challenging, because there are things that had to be ignored. When I was home, I was supposed to attend the training online. The children were there, I had to prepare their food. So, I could only do the training when I'm finished with them.

(W1, IFG7)

“

The online sessions, sometimes you start the sessions, they [the children] cry near you and they disturb others in the sessions. You move a few minutes to take care of your baby, and the lesson is over when you come back.

(W1, IFG4)

⁵⁷ The final report will link the findings with existing theory and literature in the relevant areas. For example, this links strongly with the concepts of time poverty and the double burden of professional and domestic work often falling on women and marginalised groups. In this case, this could be considered a triple burden, as noted in Dogra and Kaushal in *Underlying the triple burden effects on women educationists due to COVID-19 | Education and Information Technologies* ([springer.com](https://www.springer.com))

Data from the focus groups with eTMs also corroborated these findings. ETMs outlined that, socio-culturally, women in Rwanda are expected to prioritise taking care of their children and family members, making it difficult to engage in other activities while at home. Some eTMs also mentioned that some women teachers attended the online sessions with their babies for these reasons, which presented additional challenges to the online sessions and group discussions in the breakout rooms. In the online sessions observed by Ecctis, there were various occasions where, while women teachers were speaking, it was possible to hear children in the background or babies crying. The impact of this is that the women teachers themselves were likely to be distracted, and they were also less easily heard. In the words of one eTM:

“

Some women teachers failed to attend effectively because of household chores; for example, some women attending while cooking food, or others attending while caring for babies.

(W2, EFG3)

While most WTs expressed a preference for the face-to-face training modality, as distractions at home often impeded their active participation in the online sessions, one WT did express a preference for online sessions because they provided her with more flexibility. This particular teacher explained that the online modality allowed her to be with and support her family while attending the online sessions at home – which she found preferable to being away from home to attend face-to-face sessions.

As illustrated in the figure below, survey findings disaggregated by gender show that most women and men prefer a blended approach to learning, including both face-to-face and online sessions. Additionally, a similar number of WTs and men teachers reported that they prefer face-to-face sessions (19 men teachers, 15 WTs). However, survey data indicate that a higher number of men teachers prefer online sessions (13 men teachers) compared to a very small number of WTs (2 WTs). These findings corroborate earlier findings from the interviews and focus groups with WTs. This can be at least partially attributed to the fact that WTs often face more challenges than men in attending online sessions and finding the time for online learning.



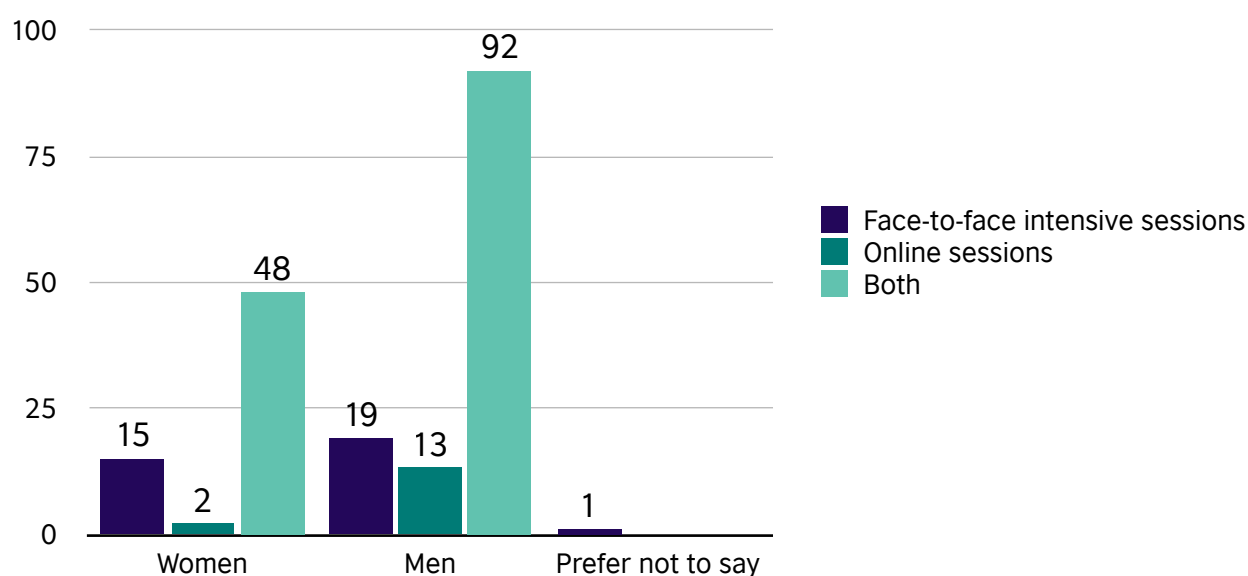


Figure 15: Teachers' reported preferences for face-to-face sessions, online sessions or both; disaggregated by gender

Challenges using digital tools and resources

A less predominant but still noteworthy challenge for some WT's was the digital skills requirements for online learning. Some WT's reported familiarity with tablets and being comfortable with their use, but many mentioned facing challenges when turning their microphones on and off during live sessions or missing the first meeting because they did not know how to join it online. Across multiple focus groups, WT's referred to the importance of the eTM for technical support, highlighting the importance and need for continual help and training in this area. This was corroborated by the focus groups with eTMs, with several eTMs confirming that some WT's faced challenges using the digital tools provided in the training. For this reason, eTMs reported the need for additional training on digital skills and literacy for WT's, to further develop their skills in using digital tools.

“

It was hard for some women to manipulate ICT tools provided in the training.

(M4, EFG3)

However, survey findings disaggregated by gender show that most WT's who responded to the survey found the digital tools and devices (such as tablets) very easy to use (31 respondents, or 46%) or easy to use (28 respondents, or 41%), compared to most men who responded to the survey, who found the digital tools and devices (such as tablets) easy to use (56 respondents, or 46%), followed by those finding them very easy to use (53 respondents, or 43%).

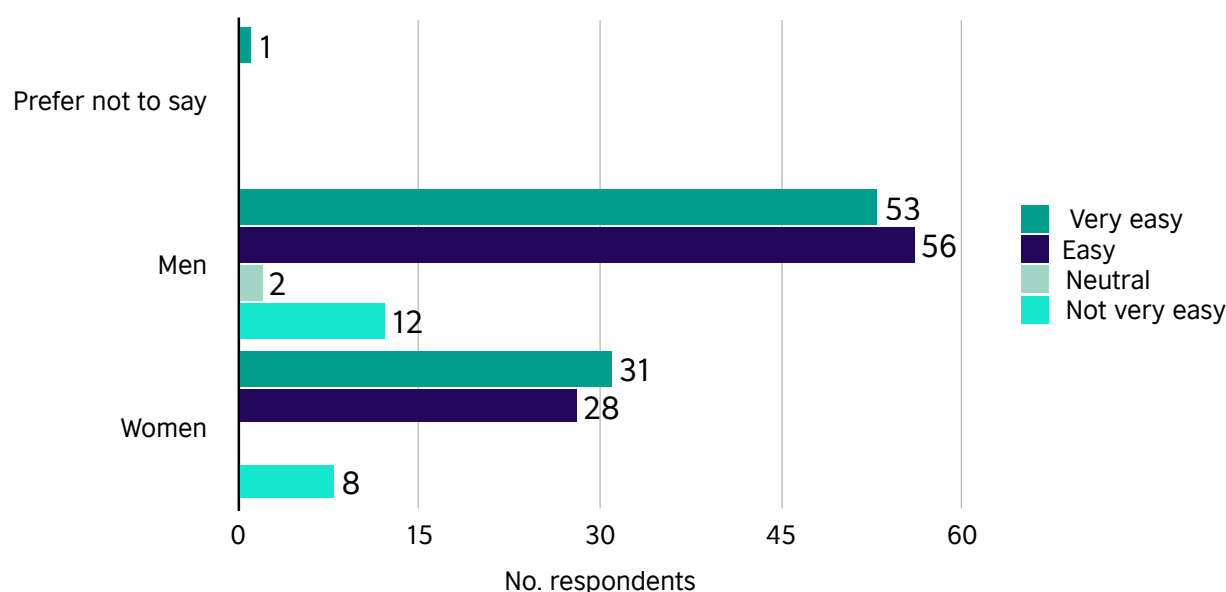


Figure 16: Teachers' views on the use of digital tools and devices (such as tablets) disaggregated by gender

As such, gendered findings around the use of digital devices are mixed. One hypothesis might be that fewer men reported experiencing issues, leading to a perception (or bias) among some eTMs that women might have found it harder to manipulate some IT tools; or that the women who responded to the survey were those more comfortable with navigating digital devices. Either way, it is clear that additional technical support around digital devices was required for both women and men alike. According to the STELIR documentation, participants were given technical support through a one-day face-to-face induction with digital skills training and following that they were provided with the STELIR help-line phone and the WhatsApp groups for further support. However, both women and men noted that they would like to receive additional technical support in using digital devices such as the tablets, but also how to use different online

and social media platforms that they can use to conduct independent research and professional development.

For pre-service WT's, the timing of the sessions often clashed with other academic courses

Findings from the focus groups with pre-service teachers show that pre-service WT's often faced different challenges from in-service WT's in attending and participating in the online sessions. More specifically, pre-service teachers who participated in the focus groups found that the timing of the online sessions often clashed with other academic courses which often made it difficult for them to attend the online sessions. Therefore, the review and analysis of the findings from the focus groups with pre-service and in-service WT's show a discrepancy regarding the challenges that different types

of WTs faced in attending and participating in the online sessions. More specifically, during the focus groups with pre-service teachers there was no mention of childcare or family related challenges among pre-service WTs, in comparison to in-service WTs who reported that they faced these types of challenges. Therefore, it is evident that pre-service WTs often faced challenges in attending the online sessions related to the timing of the sessions which overlapped with other academic courses, in contrast with in-service WTs who reported that they often faced challenges in attending the online sessions due to their childcare and family responsibilities. This indicates that in-service and pre-service WTs faced different reported challenges in attending the online stage of the course, with the younger average age of pre-service teachers likely meaning that less pre-service teachers have childcare responsibilities, compared to in-service teachers.

Reported suggestions for improvement and additional support

Reviewing the timing of the online sessions

Many of the suggestions to address problems related to online learning pertained to the timing of the online sessions. WTs across multiple mixed focus groups expressed that they would prefer for the sessions to be conducted during their working hours or school holidays as during the weekends and lunchtimes they have dedicated time for family and childcare responsibilities, social events, receiving visitors, doing business or going to church. Some WTs suggested that they would like to be consulted about the timing of sessions so that they could suggest alternative times that work for them. Other WTs suggested that the sessions be held during the school holidays when teachers have more free time to participate in the online sessions. Similar to the suggestions for improvement presented in an earlier section, some WTs suggested having protected time window during the school week

to dedicate to their learning and CPD, which they could use to attend the online sessions. This indicates that holding the online sessions at school during the weekly CPD time could also enhance teachers' participation and engagement in the course. They explained that this would allow them to be concentrated in their learning without having the distractions that they usually experience at home:

“

It would be better if we had dedicated time in school, away from the children, so you can concentrate.

(W1, FFG4)

Providing continual technical support and guidance

Additionally, as mentioned in the section 4.1.3, most eTMs and in-service and pre-service teachers (including WTs and VITs) reported that they would like to receive continual technical support and guidance in using digital devices such as the tablets and using different online and social media platforms for their professional development following the completion of the online sessions. More specifically, pre-service and in-service WTs mentioned that they would like to receive technical support, assistance and guidance even ahead of the online sessions to ensure that they know how to join the live sessions before the first session takes place and prevent participants from missing sessions.

4.2.2 Teachers with disabilities

Reported positive experiences

VITs felt included in the online sessions

When asked about their participation in the online sessions, VITs mentioned that they felt included during the online sessions of the STELIR course. They highlighted that, despite their visual impairment preventing them from seeing what was being displayed, they still felt able to participate as they could hear and cooperate with others. Notably, they felt more included than in the face-to-face training since other participants did not know they had a visual impairment, which meant they were treated equally to others. In the words of an interviewee:

“

I was able to show my ability, up to the second unit, no one would know that I was unable to see. I was able to participate to the maximum, because no one was able to know that I was unable to see. It was good because we were included. As soon as the facilitator understood there were people with disabilities, they would spell out the words, for those that were unable to see. He would write while reading at the same time.

(M1, DFG1)



Moreover, as shown in the quote above, when the trainers became aware that some participants had visual impairments, they reportedly tried to support them and further include them in the sessions by spelling out words and giving them additional opportunities to participate, which was positively received.

eTMs and international e-trainers supported VITs

When commenting on their first experiences of the online training sessions, all participants mentioned that the trainers were surprised to find out that teachers with disabilities would be participating in the training. That said, the VITs interviewed felt that the trainers were pleased when they found out, and acted supportively in trying to accommodate teachers' needs.

With regard to the eTMs in particular, findings from the focus group with VITs indicate that when they became aware there were visually impaired participants in the online training, they kept that in mind, tailoring their approach to make sure these teachers are included. Additionally, the VITs interviewed reported being able to call the eTMs whenever they needed assistance, even during the evenings. Another interviewee shared that, when needed, the eTMs tried to find someone who lived close to visually impaired participants to help them restart their tablets. The eTMs interviewed also reported that they called VITs following an absence, offered them follow-up support, and often asked other training participants to help VITs.

Therefore, even though some eTMs were unaware they would be training VITs, once they became aware, they used inclusive approaches during sessions by encouraging everyone to participate, and after the sessions by following up with participants.

“

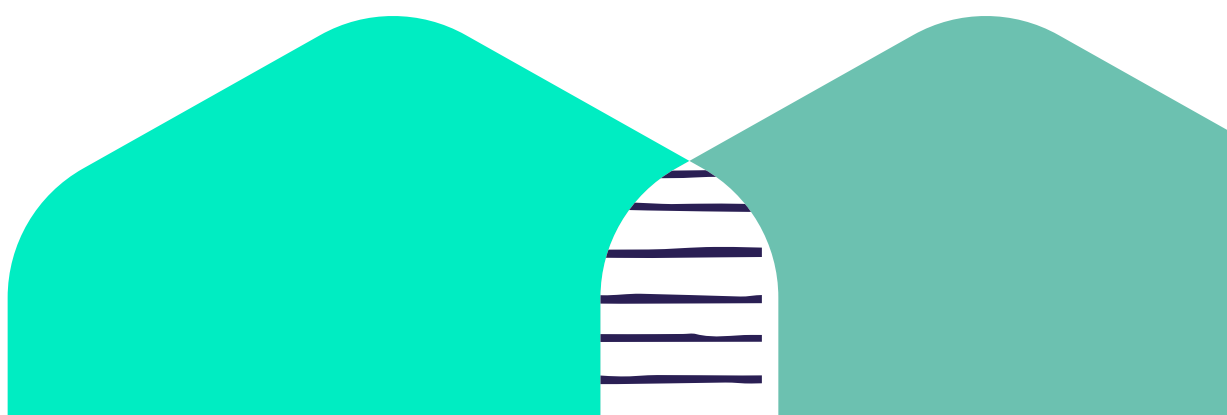
Trainers were surprised that there were visually impaired teachers – because they were not informed. But they were happy that the training was inclusive, and they made it work.

(W1, DFG1)

“

Many of the facilitators were surprised, but were familiar with training people with disabilities, they knew how to support them.

(M2, DFG1)



Regarding the international e-trainers, all focus group participants expressed positive views of the role, responsibilities and teaching methods they deployed. They noted that the international e-trainers were very supportive, friendly and overall high-quality teachers. They explained that they felt particularly supported by the international e-trainers, as the latter understood that they were visually impaired before the eTMs did.

“

I liked my international moderator much, because she discovered that I was unable to see before the national e-moderator did.

(M1, DFG1)

Reported challenges

Although VITs reported feeling included and enjoying multiple aspects of the online sessions of the STELIR course, they also reported facing a number of challenges when accessing and participating in the online sessions. These challenges included:

- lack of eTMs' awareness about the participation of VITs prior to the training
- lack of visual aids, voice recognition software and resources in Braille

- course assignments not reflecting the needs of VITs
- lack of additional assistance for VITs.

Lack of eTMs awareness about the participation of VITs prior to the training

Despite the positive views and experiences of their participation in the online stage of the STELIR course presented in the previous section, VITs also faced several challenges. When asked to comment on such challenges, all participants reported that because the eTMs were not aware that VITs were taking part in the training, they often forgot to place visually impaired participants into virtual breakout rooms. One WT with a visual impairment mentioned that, because the eTM did not know that she was visually impaired, she did not receive any support on how to join the virtual breakout rooms and often just remained in the main room with the moderator, or had to wait until the moderator remembered that she needed this to be done for her:

“

For me, the moderators had to put me in the breakout rooms themselves, so it meant we always remained in the main group and did not experience breakout rooms. If the moderator knew that I was visually impaired, he would be able to teach me how to join the breakout rooms myself, instead of the moderator doing it for me.

(W1, DFG1)



Data from the focus groups with eTMs also indicate that VITs faced challenges emerging from the eTMs lack of awareness or adaptation of their teaching practices to meet the teachers' needs. For example, during a focus group with eTMs, it was collectively agreed that teachers with disabilities were not considered at all and that eTMs were not aware of any kinds of disabilities.

As a result, the lack of eTMs' awareness of the participation of VITs in the training sometimes impeded the teachers' participation, engagement, and interaction with other participants in virtual breakout rooms. According to eTMs in one focus group:

“

Teachers with disabilities were not considered at all. ETTs and eTMs were not aware of any kinds of disabilities.

(All participants, EFG3)

Prior to the training, eTMs explained that they were not given any information regarding the fact that they would be training TWDs such as VITs, and were, therefore, unaware of that when the training started. Additionally, VITs also reported that sometimes the eTMs were not aware even during the training that they had such teachers, as one VIT reported being left out of virtual break out rooms. Findings from the focus groups with eTMs and VITs show

that once eTMs knew that they had trainees with virtual impairments, they adapted their teaching practices. However, eTMs reported that this placed extra burdens on them, as they had to facilitate the needs of visually impaired participants. For instance, all eTMs mentioned that they were required to interpret slides, photos, or videos for visual impaired participants.

“

For teachers with visual disabilities, it was a challenge because there was some slides to read and photos to interpret.

(M2, EFG2)

Lack of visual aids, voice recognition software and resources in Braille

Concerns were also expressed around the lack of available visual aids, voice recognition software, books and material in Braille, and generally the lack of access to materials tailored to the needs of visually impaired participants. Some interviewees mentioned that they had to use their own visual aids, or that they had to borrow visual assistance tools from their school to participate in the online sessions, as the tablets provided by the British Council lacked voice recognition software and visual assistance applications.



One interviewee explained that he had to 'hotspot' data from the tablet provided by the British Council (which had the data bundle) to download the Webex application to their phone, and use it to join the online sessions, as, unlike the tablet provided, their phone had voice recognition software. This enabled them to participate in the meetings. Overall, however, all VITs interviewed agreed that the lack of visual assistance tools, aids, and resources adapted to the needs of visually impaired participants, often impeded their full participation in the online sessions as they usually required assistance from other people to help them use the tablets to join the sessions, complete the activities of the course or take notes:

“

For those who were not able to do that, they were excluded. I was using my own phone to hotspot from the tablet to the phone.

(M1, DFG1)

More specifically, although a voice and a screen reader were reportedly available for some topics of the online sessions, the VITs interviewed reported that the tasks they had to complete were predominantly based on written questions, with the text of those questions often being too long, and the voice reader reading the text too fast and in one-go. This made it hard to remember/memorise the text, meaning they often needed assistance and someone to repeat the text for them:

“

The text was too long – very big. You cannot memorise it all. If someone is there, we can ask them to read one specific paragraph, but with the screen reader, it reads the whole text all at once and very fast.

(M1 & M2, DFG1)

Notably, one participant attributed the lack of adapted content and digital tools and resources to the likely absence of representation and/or consultation of people with disabilities amongst the team that designed the training:

“

Maybe there was no blind person in the design team of the programme who could understand the needs of visually impaired people.

(M2, DFG1)

Course materials and assignments not reflecting the needs of VITs

All participants reported that the course materials, tasks and assignments were not adapted to the needs of visually impaired participants. More specifically, interviewees explained that the tasks they had to complete as part of the online sessions were mainly photo-and-picture-based assignments or drag-and-drop tasks, where participants were asked to describe what they saw, record their observations and interpret different pictures. All VITs who participated in the focus group highlighted that they naturally found those tasks 'meaningless', given their visual impairment:

“

Photos are meaningless for people who are visually impaired. It would be better to have assignments that were adapted to us, based on sounds or Braille. [...] Drag and drop was very very difficult.

(M1, DFG1)

“

For me, any topics with photos and pictures. There were photos and pictures in every unit. And the moderators were asking us to observe and say what we saw, which we couldn't do. Many assignments were photo and picture based, asking us to describe pictures – for me, this was boring

(MM1, DFG1)

The VITs interviewed also reported that they were not offered alternative assignments or tasks (to address their needs) when vision-based assignments came up; instead, they had to ask other people (at their home or neighbourhood) to assist them in completing them. Additionally, as mentioned in an earlier section, VITs reported that the length of some questions was also challenging for them.

All focus group participants agreed that they would have preferred to have activities appropriately adapted to their needs – for example, activities through sound or touch,

using Braille. The focus groups with eTMs corroborate these findings, with eTMs highlighting that VITs often participated to a lesser extent because neither the content nor the teaching methodologies were inclusive or adapted to meet those teachers' needs:



Teachers with disabilities attended at less extent because the content and the model of learning was not inclusive.

(M1, EFG2)

In addition, all focus group participants noted a lack of access to materials (such as books and resources) in Braille. Apart from all the above, all interviewees also reported several accessibility issues when accessing the self-study material on the REB website. As a result, the lack of books and resources in Braille, in combination with the picture-based assignments which were not adapted to the needs of VITs, and the lack of voice recognition and other visual assistance tools in the tablets provided by the British Council, often impeded the participation of VITs in the live sessions but also the self-study material available on the REB website.

Lack of additional assistance for VITs

When asked about the assistance they were provided to complete the assignments, all focus group participants highlighted the lack of additional assistance to support them in completing the assignments of the course. They explained that because the assignments were not adapted to their needs, they had to find people from either their own homes or their neighbourhood to assist them, which was often challenging as people were not always

available to help. All VITs interviewed explained that they would like to receive more support and assistance beyond that provided by the eTM. However, they did flag that, if the course materials and assessments had been tailored to their needs – e.g. if the tablets had voice recognition software and they had resources in Braille – they may not have required any additional assistance:



But it's a common challenge that we lacked someone to assist me – it would be better to have someone near to assist, apart from the moderator. We (visually impaired people) had to find someone to assist us ourselves, this was not found by the e-Teacher Moderator. With the content not being adapted, at least there should have been someone to assist.

(W1, DFG1)

Importantly, the lack of assistance to visually impaired participants affected the time it took them to complete the assignments, and, consequently, their usage of the data bundles. The VITs interviewed explained that, because they did not receive any additional assistance to complete their assignments and because they were not familiar with the software used, the assignments took longer to complete, resulting in higher data usage – noting that the data bundles provided by the British Council were not enough to cover the additional time spent on the tasks. However, they highlighted that, had the content been adequately adapted

and had they been provided with additional assistance, then the 5GB data bundles, would have been enough to cover their needs:

“

If we have an assistant, 5GB is enough. But without an assistant, it's not enough. But whatever you do, you need an assistant. Because there are activities that we can't do....

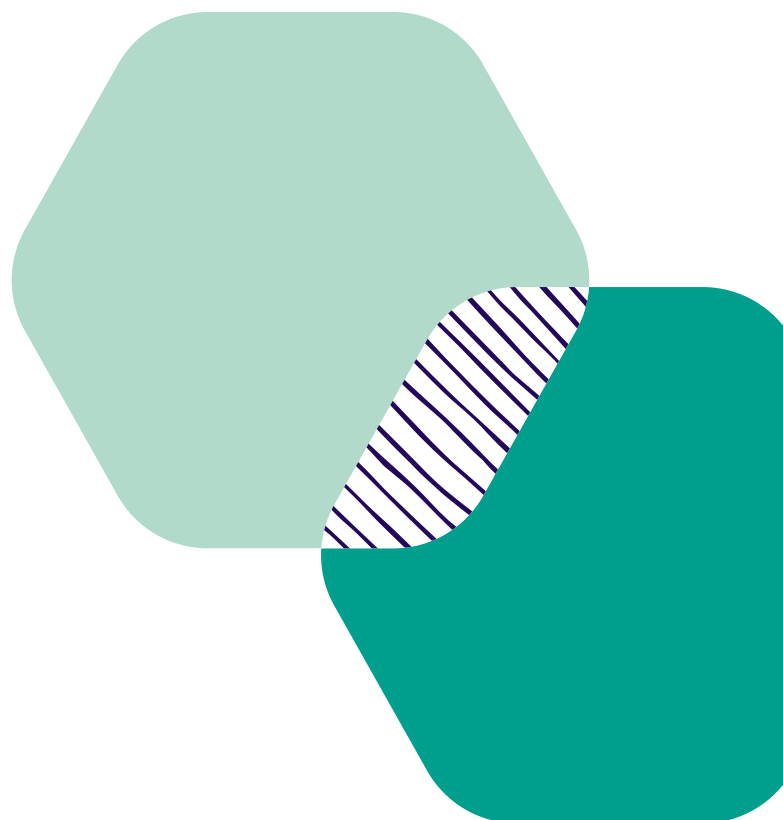
(M1, DFG1)

Overall, VITs encountered several challenges in participating in the online sessions and accessing the self-study material on the REB website. This was because there was a lack of voice recognition software on the tablets provided, and generally a lack of visual assistance tools and aids, books and materials in Braille, and the fact that tasks were mainly text-based and picture-based assignments. Additionally, apart from the fact that the content of the course and the tasks were not adapted, visually impaired participants reported that they did not receive appropriate additional assistance (beyond the support provided by the eTMs) to complete the assignments, which meant that it took them longer to conduct the tasks, resulting in a higher use of data.

Reported suggestions for improvement and additional support

Teachers with visual impairments provided several suggestions for the improvement of the programme in the future and the types of additional support that they found necessary. These suggestions included:

- adapting the content, the tools, the resources, and the tasks of the course to meet the needs of participants with disabilities
- offering additional assistance and support to participants with visual impairments
- clearly communicating to eTMs and ETTs that they will be training participants with disabilities, and providing training, support and guidance to eTMs and ETTs on how to support them
- including/consulting people with different disabilities during the design and delivery stages of the course
- including the topic of special and inclusive education in the content of the course.



Adapting the content, tools, resources and tasks of the course to meet the needs of participants with disabilities

The three VITs interviewed were asked to comment on any additional support they would require to fully participate in the online sessions and any general suggestions for improvement of the programme. All three agreed that there is a need to adapt the content of the programme, the digital tools, the resources provided and the assignments to address both the needs of visually impaired participants and those of participants with other disabilities. For visually impaired participants, interviewees suggested the provision of tablets with screen reader, voice recognition and other visual aid materials and software, and the development and dissemination of resources in Braille, including the course content and assignments. One focus group participant recommended that this could be achieved, for example, by developing and providing a short English language glossary in Braille, and by adapting the self-study materials on the REB website to a format that allows visually impaired participants to access them (e.g. using text-to-speech software). eTMs interviewed also suggested that the content of the online sessions should be adapted to become more inclusive to better meet the needs of TWDs. As summarised by one of the interviewees:

“

For the next opportunity, by the time they are planning for a similar training, they have to think about people with disability, in terms of content, in terms of materials, they need to be adapted to different categories of disabilities.

(W1, DFG1)

Providing additional support and assistance to participants with visual impairments

All visually impaired participants also agreed that they would have benefitted from additional support and assistance – beyond that provided by the eTMs – when completing course assignments. They expressed a particular preference for being allocated a designated person to support them in navigating the specific visual interface used for the assignments (e.g. the software, the REB website), particularly as screen readers and voice recognition software can fail – e.g. skipping words or sentences, reading a lot of text in one go, or reading it too fast.

Where this type of support is not possible, however, they emphasised a need to adapt the types of assignments and tasks by including audio scenarios and/or questions, instead of written-text or picture-based ones, as well as provide larger data bundles to compensate for the fact that VITs will take longer to navigate the software and interfaces that are not adapted for them.

Clearly communicating to eTMs and ETTs that they will be training people with disabilities, and providing training, support and guidance to eTMs and ETTs on how to appropriately support them

Ensuring that trainers and moderators know when they will be training participants with disabilities that can affect their experience of the training, such as visual impairments in an online training scenario, was considered essential by all focus group participants. They explained that if eTMs and ETTs are aware that there are people with disabilities attending a course prior to the training, they can better and more appropriately prepare to adjust their teaching practices and adopt more inclusive pedagogical approaches to address their needs. In the words of one interviewee:



“

The moderators should know before training that there are people with disabilities, so they can prepare appropriately. The centre itself needs to be ready to receive people from different backgrounds. Moderators need to be well informed and well prepared.

(W1, DFG1)

Findings from the focus groups with eTMs corroborate these findings. Several eTMs expressed wanting to have been made aware of the needs of participants prior to the start of the course.

Including/consulting people with different disabilities during the design and delivery stages of the course

All VITs interviewed agreed on the importance of including representatives from different groups of participants with disabilities in the design and delivery of any training programme in which they are supposed to take part. In particular, the participants emphasised the need for the TWDs consulted/included throughout the training design process to be local, as they can better understand the challenges faced by TWDs in developing countries, supporting the design of the content and assignments of the course to reflect their needs, and embedding more inclusive approaches in the teaching practices of training:

In terms of the delivery of the training, the VITs interviewed explained that they would like to receive support from local eTMs and ETs and especially international trainers who themselves have disabilities or who have experience working with people with disabilities.

“

If we have someone with a disability, and sight impairment, in the team that designs the training, they can think about these challenges before the training is put in place, and that will make it more inclusive. It would be very helpful if the person with disability is local – the challenges in developing countries are different from the challenges faced by people with disabilities in developed countries.

(W1, DFG1)

Including the topic of special and inclusive education in the content of the course

In terms of the content taught, visually impaired participants were asked to comment on any topics that they thought were missing from the online sessions of the programme. Two focus group participants mentioned that the topic of special and inclusive education was not always covered by the course content and the eTMs. For this reason, the interviewees suggested adding a topic on special and inclusive education in the course content to allow participants to expand their English language knowledge and skills around special and inclusive education.

4.3. Summary of key findings

Across all stakeholder engagement activities conducted, participants reported several positive experiences and benefits of the online stage of the STELIR course – these are summarised in section 4.1.1. These positive views and experiences have been reported across a number of areas, including: the content, structure and teaching methodologies used in the online sessions; the impact on teachers' English language proficiency, digital skills, social skills and time management; the support provided by the eTMs and the international e-trainers, and the impact of the NILE course on eTMs' and ETTs' knowledge and skills.

That said, as summarised in section 4.1.2, there were also some barriers and challenges which prevented some teachers from consistently attending and actively participating in the online sessions and online learning more broadly. Such challenges often included the limited internet connectivity and data bundles; the timing of the online sessions (which often clashed with other responsibilities); the in-service teachers' high workload and responsibilities; climate-related disruptions; issues with the level of content of the course (for some), and the lack of continuous support after the completion of the online sessions.

As presented in section 4.1.3, to overcome these challenges, there is a reported need to further support teachers' learning and development, especially around English language proficiency and digital skills, as well as increase their interactions to promote longer-term collaborative learning. Additionally, stakeholders also recommended certain logistical enhancements to promote accessibility and sustainability, including protecting time for teachers to participate in the online sessions, and ensuring the necessary resources, facilities and infrastructure, such as data bundles and internet connectivity, are consistently in place. The provision of incentives (such as certificates or monetary compensation) and further opportunities for international collaboration were also

highlighted by several participants as potential improvement areas. In terms of the training itself, it was suggested that rearranging the training groups based on teachers' subject expertise and providing post-assessment feedback could further support teachers' continuous learning and development.

Specifically in terms of equity and inclusion (presented in section 4.2), a key theme emerging from the process evaluation is that, although both WTs and VITs enjoyed the blended approach to learning (i.e. the combination of both face-to-face and online modalities), WTs preferred the face-to-face sessions, whereas the VITs interviewed preferred the online sessions. Notably, WTs experienced several barriers to participating in the online sessions emerging from – or being exacerbated by – the social roles they are prescribed in Rwandan society. These included factors such as the timing of the online sessions clashing with childcare and other domestic and social responsibilities, distractions at home (e.g. and being unable to turn away visitors/ neighbours), challenges in using digital tools and resources, and the additional load of the online learning for members already in full-time employment and responsible for domestic care. Therefore, the majority of WTs preferred the face-to-face sessions, as these allowed them to better concentrate on their learning.

In contrast VITs, reported that they preferred the online sessions, as they felt more included compared to the face-to-face ones. They explained that this was because other participants were not (always) aware that they had a visual impairment, which meant they were treated equally to others during the online sessions. Although VITs felt more included in the online sessions, they provided suggestions for improvement of the course to address their, and other TWDs', needs. Some of these suggestions included the adaptation of the content, tools, resources and assignments of the course, providing additional assistance to TWDs, raising the awareness of eTMs and ETTs around training TWDs, and consulting people with different disabilities during the design and delivery stages of the course.



5. Key Findings

Findings from both the literature review and the process evaluation indicate several benefits of blended or online learning including the development of teachers' digital skills and literacy, improvement of teachers' learning outcomes and communication/language skills, the promotion of autonomous and independent learning, the creation of an interactive and collaborative learning environment and the flexibility that this dual training modality provides. The process evaluation of STELIR's online stage found that participants expressed predominantly positive views on the content, structure and teaching methodologies used in the course, and a preference for the blended learning modality. Participating teachers also reported that, as a result of their participation in STELIR's online course, they improved their confidence in speaking English, their social skills and time management skills.

Apart from the several benefits that blended or online training modalities provide, the literature review and the process evaluation found that teachers often experience challenges when participating in blended or online learning. These challenges usually include the limited or lack of digital resources, facilities and infrastructure, the limited internet connectivity and electricity, as well as the limited digital skills among teachers (which further impedes them from incorporating digital tools in their pedagogical practices in the classroom). Other challenges often include finding time and space to engage in blended or online learning around other personal and professional commitments, their increased workload and responsibilities and the limited participation incentives. More specifically, the process evaluation revealed that teachers reportedly faced some additional challenges related to the limited data bundles provided by the STELIR team each week, and climate-related disruptions which often impeded teachers' active participation in the live online sessions. Some additional challenges

reported by the teachers were the mixed levels of participation in the virtual breakout rooms, challenges concerning the difficulty of the online sessions for some teachers, and the lack of follow-up after the completion of the online sessions.

Evidence from both research components suggests that there are several ways to overcome these challenges. Some of these include the provision of adequate training to trainers who deliver blended or online courses, the inclusion of representatives of different groups of participants in the design and development team of the blended course and ensuring that necessary ICT resources and infrastructure such as electricity, internet connectivity, and data bundles are in place prior to the start of the training. Additionally, findings from both the literature review and the process evaluation show that it is essential to provide continuous and follow-up support to training participants, even after the completion of the blended course, providing accessible material and resources, and ensuring the creation of a supportive and engaging learning environment. Ensuring that teachers have protected time during their school week to dedicate to their training and CPD and providing financial incentives and rewards to teachers for participating in their training and CPD, was also highlighted in both the literature review and process evaluation as a way to maximise teachers' engagement in online learning. Additionally, establishing adequate monitoring and evaluation processes was highlighted within the literature as a mechanism to ensure the effectiveness and quality of implementation of the blended or online course. When asked for potential suggestions for improvement of STELIR's online stage, teachers and eTMs suggested providing additional support to teachers around English language skills and digital literacy, ensuring teachers' continuous

interaction after the completion of the training and promoting international collaborations by increasing the number of international e-trainers. Some teachers also suggested arranging subject-specific training groups and providing participants with post-assessment feedback and additional information on course assessment.

In terms of equity and inclusivity, a common theme which emerged from both the literature review and the process evaluation is that WTs and TWDs often experience additional barriers in their participation in blended or online training and CPD programmes. For in-service WTs, a common challenge in participating in blended or online learning includes their increased care (childcare and/or eldercare) and domestic responsibilities. This is because blended or online training and CPD programmes often take place outside working hours (for example on the weekends, evenings or on holidays) which makes it even more difficult for WTs to attend, as during those times they are often occupied with care and household responsibilities. Therefore, in-service WTs are often time poorer compared to men teachers and therefore the distractions at home and their additional care and household responsibilities often disproportionately impede their active participation and engagement in blended or online CPD programmes. Additionally, while pre-service WTs flagged that the online sessions often clashed with the classes from other academic programmes, there was no mention of childcare or family-related challenges among them. This is in sharp contrast with in-service WTs, for whom care, and household activities constituted the biggest barrier to training attendance and participation. Regardless of those differences, another key theme emerging from both the literature review and the process evaluation is that both in-service and pre-service WTs often prefer face-to-face training. For in-service WTs this was because through face-to-face training they have the time and space to dedicate to their CPD without having the distractions that

they usually face when they participate in online training at home.

For TWDs, the literature review and the process evaluation both indicate that the lack of accessibility and provision of the necessary and adapted tools, resources and infrastructure (such as resources in Braille, visual aids and voice recognition software) often impede the active participation of TWDs in blended or online programmes. VITs interviewed for the purposes of the process evaluation reported the lack of eTMs' awareness of the participation of visually impaired participants in the course, the lack of additional assistance provided to them, and challenges in accessing course materials and assignments as they were not adapted to address their needs (for example, many picture-based assignments were included). However, regardless of the challenges that VITs faced in participating in the online sessions of STELIR, VITs expressed preferring the online sessions over the face-to-face ones because they reportedly felt more included and treated equally to others as other participants could not understand that they were visually impaired.

These findings show that different groups of training participants have different needs and preferences. To address those challenges usually faced by WTs and TWDs, findings from the literature review and the process evaluation suggest that it is essential to ensure that the digital resources, infrastructure, and internet connectivity are in place, provide adequate gender-and-disability awareness training to trainers, and provide continuous support to teachers during and after training takes place. Additionally, a key recommendation emerging from both research components is that the design and development of equitable and inclusive training and CPD programmes require training designers to adapt the learning materials to address different groups of participants' needs and preferences. The following table provides a summary of the key findings of the study.

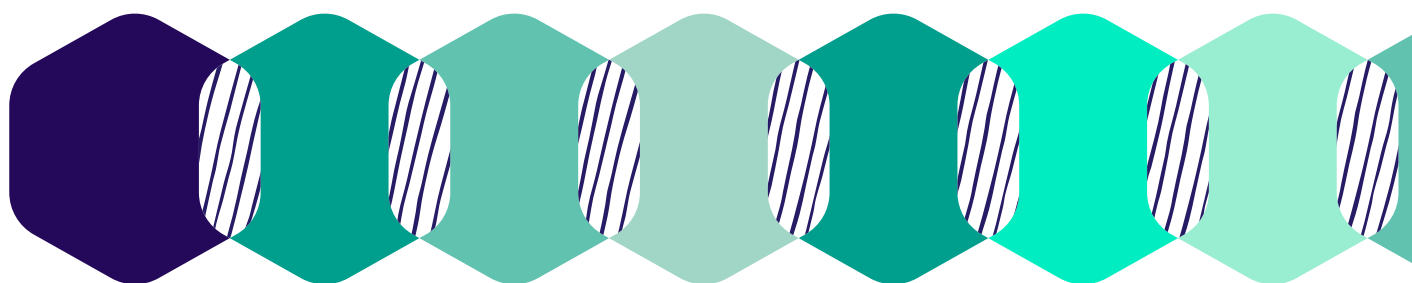


Table 5: Summary of findings of the study per research component organised thematically

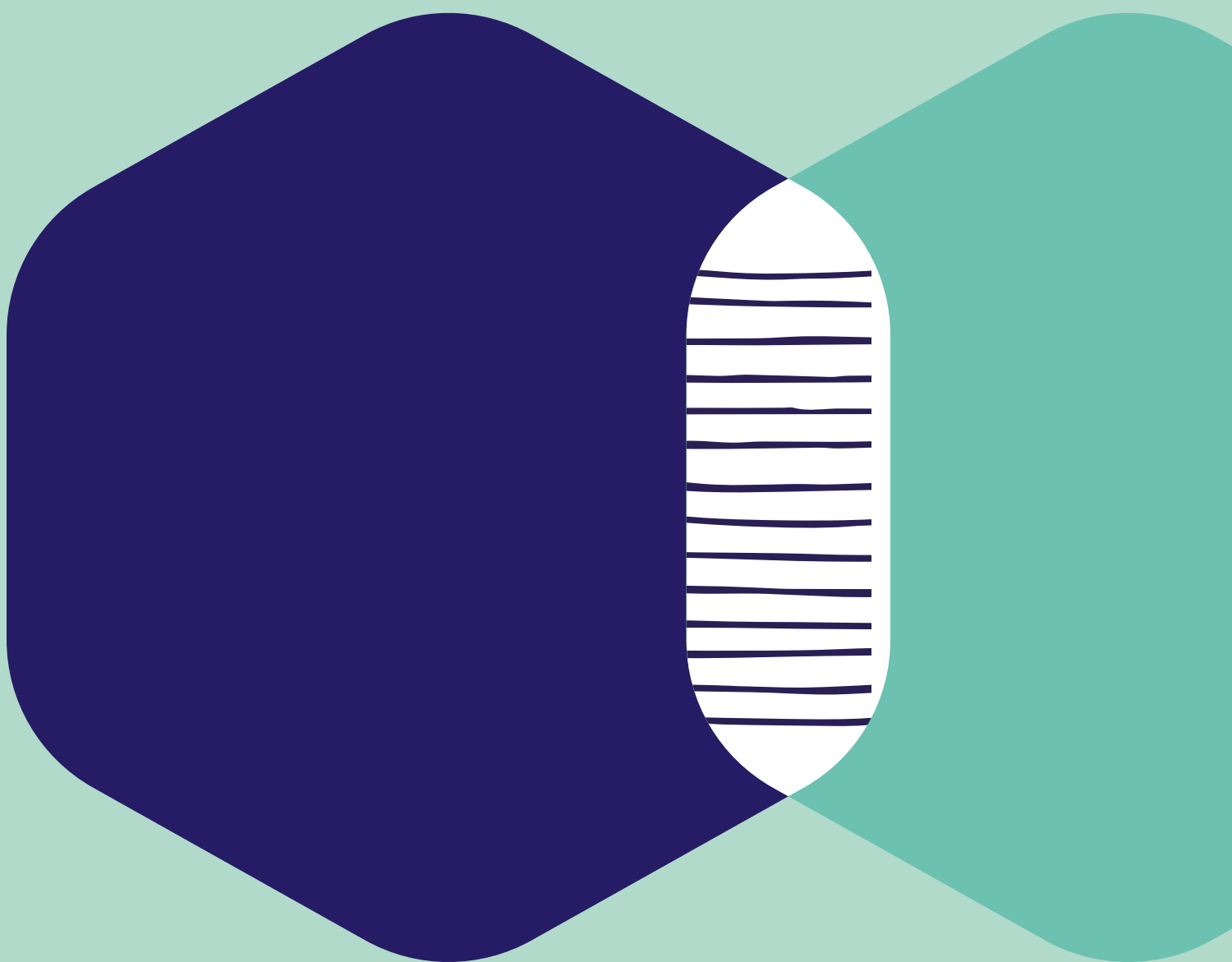
Findings of the study		
Themes	Literature review	Process evaluation
	Benefits	
Digital skills and literacy	The development of teachers' digital skills and literacy as a result of their participation in blended or online learning emerged from both the literature review and the process evaluation.	
Language and communication skills	Literature suggests that participation in blended learning can lead to improvements in teachers' learning outcomes and communication/ language skills. In the case of STELIR, in-service and pre-service teachers and eTMs reported a positive impact on teachers' English language proficiency and an increased confidence in speaking English.	
Social skills	Evidence from the literature shows that blended learning promotes the creation of a collaborative and interactive learning environment. In the case of STELIR, participants observed a positive impact of the online sessions on their social skills.	
Time management skills	N/A	Findings from the process evaluation show that STELIR teachers reported that as a result of their participation in the online sessions they saw a positive impact time management skills.
Independence and autonomy	Evidence from the literature shows that blended learning often leads to the development of students' independence and autonomy. This was also evident in the process evaluation with STELIR participants emphasising wanted to do their own research using the digital resources provided and to continue learning independently.	
Preference of blended learning modality	Literature shows that one of the benefits of online learning is the flexibility it provides in terms of attendance and participation. In the case of STELIR, most participants expressed a preference over the blended modality. In some cases, this was because of the flexibility that this modality provides.	
Content, structure and teaching methodologies	N/A	During the process evaluation, STELIR participants expressed positive views of the content, structure and teaching methodologies of the live online sessions.
International collaborations	Literature suggests that blended learning can support the international collaborations due to its flexibility and online modality. In the case of STELIR, participants expressed positive views on the role of international e-trainers and a desire to be involved in more international collaborations in the future to improve their English language skills.	
Equity and inclusivity	N/A	VITs who participated in STELIR's online stage reported that they felt more included in the online sessions compared to the face-to-face ones, as other participants were not aware of their visually impairment and therefore, they were treated equally. Therefore, VITs expressed a preference over the online modality.
Support from trainers	N/A	Both in-service and pre-service teachers expressed generally positive views of role of eTMs and the international e-trainers. VITs particularly, reported that although the eTMs and international e-trainers were not aware of the participation of visually impaired participants in the online sessions, once they became aware of that they supported VITs and tried to include them in the online sessions (e.g. through interpreting slides and images).

Findings of the study

Themes	Literature review	Process evaluation
	Challenges	
Lack of digital resources and infrastructure	Evidence from both the literature review and the process evaluation indicate that the limited or lack of access to digital facilities and infrastructure, electricity, data bundles and internet connectivity can impede teachers' active participate in the online sessions. VITs who participated in STELIR reported the lack of visual aids, voice recognition software and resources in Braille as well as the lack of adapted course material and assignments to address their needs. VITs also reported the lack of additional assistance to complete the assignments of the course.	
Limited digital skills	Both the literature and the process evaluation found that teachers limited digital skills and competencies can often lead to challenges in using digital tools and resources and integrating digital tools into their pedagogical practices.	
Timing of the online sessions	Literature findings show that teachers often face challenges in finding time to engage with the online parts of the blended learning at home. Findings from the process evaluation corroborate those findings as STELIR participants reported that they found challenges around the timings of the online sessions as these happened during the weekends and overlapped with other personal and professional commitments. Particularly, WTs found the timings of the online sessions challenging as during lunchtime on the weekends they are usually occupied with other care, domestic, community or professional responsibilities. For pre-service teachers who participated in STELIR, the online sessions reportedly overlapped with other academic lessons.	
Space to participate in the online sessions	Findings from the literature show that often teachers face challenges in finding space to engage in the online parts of the blended learning. In-service WTs who participated in STELIR also reported that distractions at home often disproportionately impeded their active participation in the online sessions.	
Teachers' workload and responsibilities	Both the literature review and the process evaluation found that particularly in-service teachers often experience challenges in participating in blended or online learning due to their increased workload and responsibilities. For WTs, the process evaluation found that the additional load of online learning was difficult to reconcile with existing responsibilities which disproportionately impeded WTs' participation.	
Lack of financial or other incentives	The limited financial and other incentives/rewards or certificates for teachers to participate in blended learning was also a key finding of the literature review and the process evaluation.	
Teachers' attitudes around the use of technology	Evidence from the literature shows that sometimes teachers' negative attitudes around the use of technology can impede their participation and engagement in blended or online learning.	N/A
Lack of follow up support	N/A	STELIR participants reported that another challenge that they faced was the lack of follow-up after the completion of the online sessions.
Maintaining teachers' engagement	Literature indicates that often it is challenging to maintain teachers' engagement and active participation in blended learning. Findings of the process evaluation corroborate these findings. STELIR participants reported that there were often mixed levels of participation in the virtual breakout rooms and not all teachers were actively participating in the online sessions.	
Climate related disruptions	N/A	STELIR participants reported that they experienced climate-related disruptions during the online sessions, such as heavy rain, which often led to internet connectivity issues and impeded their active participation in the online sessions.
Difficulty level of the online sessions	N/A	Some teachers who participated in STELIR reported challenges concerning the difficulty level of the online sessions. This was because the programme was targeted to LSTs across all subjects and therefore some English language teachers reported that they found the course easier than maths or science teachers who found it more challenging.

Findings of the study

Themes	Literature review	Process evaluation
	Suggestions for improvement	
Provision of digital resources and infrastructure	Findings from both the literature review and the process evaluation suggest ensuring the provision of adequate ICT resources, infrastructure, data bundles, electricity and network connectivity, and providing easily accessible material and resources which are adapted to the needs of different groups of participants (such as VITs).	
Training to trainers/moderators	Evidence from both the literature review and the process evaluation show that it is essential to providing adequate training to trainers/moderators of blended or online courses. To ensure equity and inclusivity of a teacher training course, it is essential that gender-and-disability awareness training is provided to trainers/moderators who deliver the online course.	
Continuous support to participants	Findings from the literature suggest providing continuous and follow-up support to participants of blended or online training courses. In the case of STELIR, participants also suggested that they would like to receive additional support around English skills and digital literacy and providing continuous technical support and guidance.	
Protected time to dedicate to their training and CPD	Both literature review and process evaluation findings highlight that it is essential to ensure that teachers have protected time for their training and CPD. In the case of STELIR, participants WTs suggested reviewing the timing of the online sessions and incorporating based on their needs and preference to maximise their participation and engagement in the sessions.	
Incentives and rewards	Findings from both the literature review and the process evaluation suggest providing incentives and rewards to teachers to participate in the training and CPD as well as certification after the completion of the course.	
Continuous communication and interaction	Creating a supportive and engaging learning environment to ensure teachers' continuous interactions after the completion of the training course was highlighted in the literature but also by several STELIR participants who took part in the process evaluation.	
Co-design of training and CPD courses	To address several challenges, literature suggests inviting teacher representatives to co-design and co-develop the training and CPD. VITs who participated in STELIR highlighted that it is important to include and consult people with different disabilities who are local during the design and delivery stages of the course.	
Monitoring and evaluation processes	Literature indicates that to ensure the effectiveness of implementation, quality, impact and sustainability of a teacher training course, it is essential to establish monitoring and evaluation approaches for those teacher training and CPD programmes.	N/A
Subject-specific training groups	N/A	Rearranging the training groups based on in-service teachers' subject was considered essential by some STELIR participants as some non-English language teachers reported that they found the level of the course challenging.
Assessment feedback	N/A	STELIR participants suggested providing post-assessment feedback and additional information on course assessment to help them further develop their English language skills.



6. Recommendations

This section presents the study's recommendations with a focus on the quality improvement and increase of the effectiveness and impact of the Stage 2 (online) of the STELIR course. More specifically, this section builds directly on the suggestions, recommendations and challenges highlighted by in-service and pre-service teachers (including WTs and VITs) and eTMs who participated in the Stage 2 (online) of the STELIR course during the stakeholder engagement activities conducted as part of this study. The recommendations presented below are organised thematically based on the themes of effectiveness and of implementation and equity and inclusion, and several sub-themes which emerged from the findings of the literature review and process evaluation.

1. Effectiveness and quality of implementation

Resources and infrastructure

Recommendation 1: Ensuring that internet connectivity, facilities and infrastructure are in place and increasing the data bundles provided to the teachers prior to the training

Given the nature of online training, strengthening the internet connectivity where possible, especially for teachers living in rural and remote areas – where internet connectivity is often unstable – is considered essential

to maximise teachers' active participation in the online sessions. Additionally, considering increasing the data bundles provided to teachers or splitting the 5GB provided to them to 3GB across weekdays and 2 GB for the weekend could enhance teachers' engagement with the training material and resources outside the online live sessions, and allow them to download material from the REB website to strengthen their learning and professional development.

Timing of the online sessions

Recommendation 2: Changing the timing of the online sessions to meet the needs of both in-service and pre-service teachers

Consider changing the timing of the online sessions, for example during school holidays when teachers have no overlapping responsibilities, to maximise teachers' active participation and engagement in the online sessions and. For example, during the weekends, most in-service teachers reported having family and childcare responsibilities and household chores (particularly WTs), visits, social and other community events (such as weddings, funerals, social activities, going to church).

Recommendation 3: Ensuring that in-service teachers have protected time during the school days to dedicate to their CPD and attend the online sessions, especially for WTs

Ensure that in-service teachers have protected time window to dedicate to their CPD that they can use to participate to the online sessions. Additionally, consider consulting teachers regarding the timing of the online sessions to ascertain the specific times that work for them. This could increase in-service teachers' participation in the online sessions.

Continual support and guidance

Recommendation 4: Ensuring that technical support and guidance is provided prior to the start of the online sessions

Consider providing technical support and guidance to in-service and pre-service teachers (including WTs and TWDs) before the start of the live online sessions, for example in using the tablets and other digital tools and resources such as social media platforms, as sometimes teachers lack familiarity in using the tablets. Ensuring that technical support is provided, before the first online session takes place, can support teachers to feel prepared and understand how to use the tablets and how to join the sessions. This will prevent teachers from missing parts of or entire online sessions, it will potentially increase their participation and engagement in the whole group discussions and virtual break out rooms and enhance their collaboration and dialogue.

Recommendation 5: Providing continuous support and guidance on English language skills and digital literacy after the completion of the online sessions

Consider providing continuous support and guidance on English language skills and digital literacy after the completion of the online sessions. In terms of English language skills, this can be achieved through disseminating soft or hard copies of the resources from the

online sessions to the training participants following the completion of the course, allowing them to revise specific units and topics and refer to these whenever needed. Additionally, this can be achieved by uploading the STELIR course materials to YouTube. Regarding digital literacy, consider providing additional training on digital literacy and allowing trainees to keep the tablets for a longer period to practice their digital skills.

Recommendation 6: Creating mechanisms that would allow the continuous interaction and communication among training participants after the completion of the online course

Ensuring that teachers continue interacting after the completion of the training is important for embedding longer-term impact and sustainability of the training. More specifically, creating mechanisms that would allow teachers' continuous interaction, communication, collaboration and dialogue, such as through teachers' Communities of Practice (CoPs) can enhance teachers' motivation in exchanging learning and experiences and sustain the impact of the training.

Incentives and certification

Recommendation 7: Providing incentives and certification to training participants after the completion of the online sessions

To maximise in-service and pre-service teachers' participation in the online sessions of the training, consider providing financial incentives and certification after the completion of the course. A certificate of attendance after training completion can strengthen teachers' motivation to participate in the online course because it contributes towards their career development and progression.

Awareness of the training groups

Recommendation 8: Arranging some subject-specific training groups for in-service teachers, followed by some mixed-subject training sessions

Apart from organising the training groups based on language ability, following the results of the baseline assessment, consider arranging subject-specific training groups for in-service teachers as the first sessions of the course, followed by mixed-subject training sessions. A model that mixes both combination types would allow teachers with different English language levels to interact, exchange learning and experiences.

For WTs, ensure that they have a protected window during the school week to dedicate to their CPD and can attend the online sessions. This is because WTs often experience additional workload and responsibilities, time poverty, and distractions at home which disproportionately impede WTs' active participation in the online sessions.

Awareness of the training groups

Recommendation 11: Considering participants' needs and preferences in the design and delivery stage of the course

Ensure that designers of teacher training programmes are aware of the characteristics of the target population of the training cohort in advance of the online sessions. From an equity and inclusivity lenses, the findings of the study show that different marginalised or disadvantaged groups may experience non-overlapping benefits and challenges from the same training material and training approaches. This suggests that teacher training and CPD initiatives should be designed to be as equitable and inclusive by considering participants' needs and preferences.

Recommendation 12: Adapting the content, resources, tasks and assignments prior to the start of the online course to meet the needs and preferences of different groups of participants

Knowing the characteristics of the target population of the training cohort in advance of the online sessions often allows training designers to adapt the content, structure, resources, tasks and assignments of the online sessions before the start of the course to address the needs of different groups of training participants such as WTs and TWDs (e.g. visually impaired participants).

2. Equity and Inclusion

Resources and infrastructure

Recommendation 9: Ensuring that additional assistance, visual aids, voice recognition software and resources in Braille for visually impaired participants are in place before the start of the online course

For VITs, consider providing additional assistance beyond that provided by the eTM, to support them with the completion of assignments, particularly because sometimes voice recognition software can fail, for example by missing words. Additionally, consider providing tablets that include visual aids, voice recognition software, and other resources in Braille, and adapted course content and assignments in Braille, to meet the needs of visually impaired participants.

Timing of the online sessions

Recommendation 10: Ensuring that WTs have a protected window during their school week to dedicate to their CPD

Recommendation 12: Adapting the content, resources, tasks and assignments prior to the start of the online course to meet the needs and preferences of different groups of participants

Knowing the characteristics of the target population of the training cohort in advance of the online sessions often allows training designers to adapt the content, structure, resources, tasks and assignments of the online sessions before the start of the course to address the needs of different groups of training participants such as WTs and TWDs (e.g. visually impaired participants).

Flexible and inclusive practices

Recommendation 13: Including local representatives from different participant groups in the design and delivery of any training programme

According to the findings, both WTs and VITs saw benefit in including representatives from different participant groups who are local (i.e. in STELIR's case, from Rwanda) in the design and delivery of any training programme in which they are to participate. Consulting representatives of different groups of participants, such as WTs and TWDs, who better understand the challenges faced by those groups in developing countries, can better support the design of the course structure, content and assignments to reflect their needs and preferences based on their socio-cultural context.

Recommendation 14: Providing mandatory gender and disability awareness training to those who deliver the course

Providing mandatory disability and gender awareness training to those delivering teacher training and CPD programmes was also suggested to ensure that trainers have the necessary understanding of the needs and preferences of different groups of participants that they are about to train.

Recommendation 15: Allowing participants to swap training modalities

As different groups of participants have different needs and preferences, and experience different benefits and challenges from different training modalities, it is essential to allow participants to choose and switch between training modalities if they start to experience challenges. This will ensure that all participants of a blended training or CPD programme have equitable and inclusive experiences.

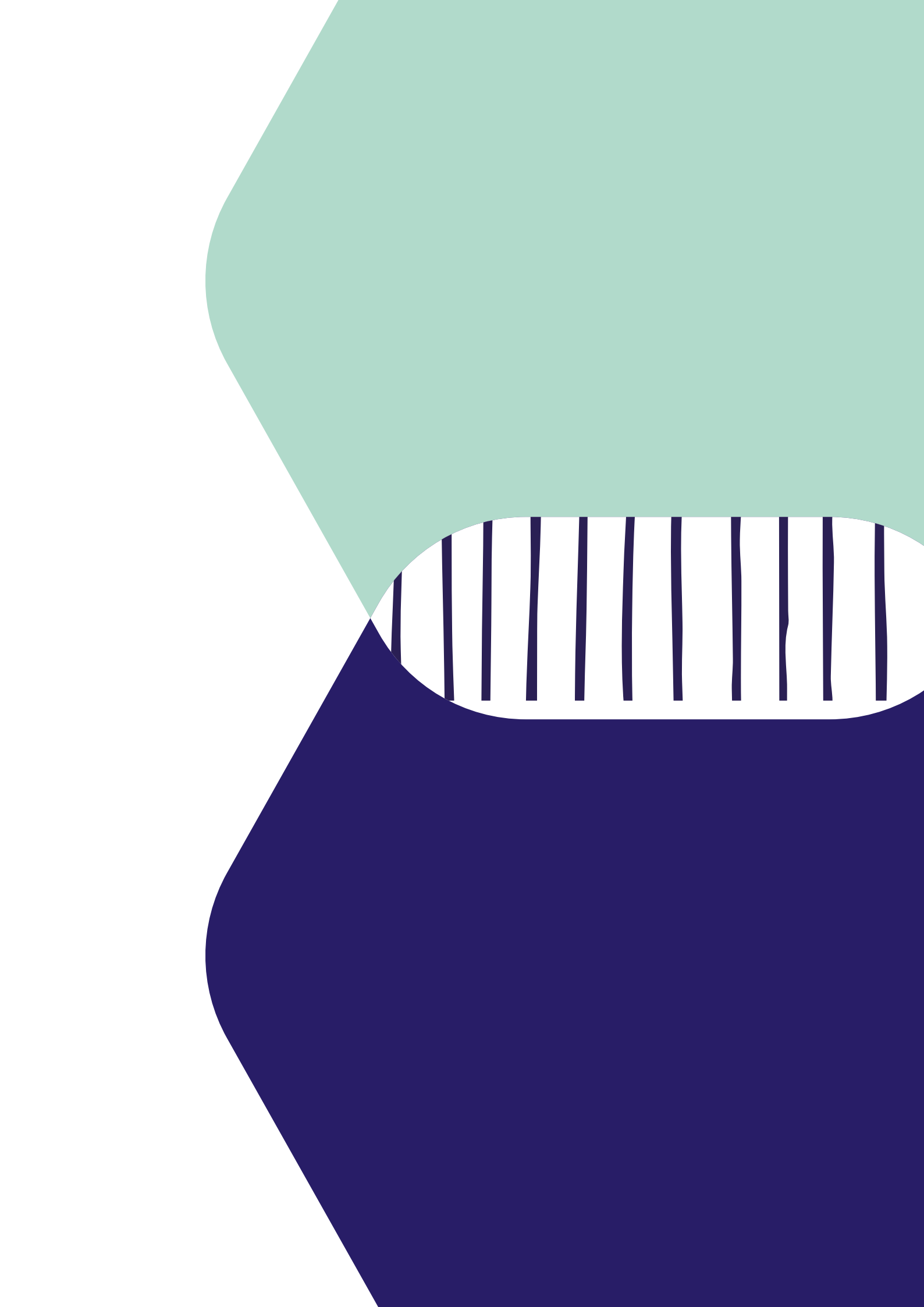
Recommendation 16: Supporting the establishment of participants' social support groups

The study found that social support groups, such as the women's WhatsApp communities, are essential in supporting agency, dialogue, and participation and enhancing training accessibility, equity and inclusivity.

The figure below summarises the recommendations of the study in terms of the effectiveness and quality of implementation, and equity and inclusion

Resources and infrastructure Recommendation 1: Ensuring that internet connectivity, facilities and infrastructure are in place and increasing the data bundles provided to the teachers prior to the training. Recommendation 9: Ensuring that additional assistance, visual aids, voice recognition software and resources in Braille for visually impaired participants are in place before the start of the online course.	Timing of the online sessions Recommendation 2: Changing the timing of the online sessions to meet the needs of both in-service and pre-service teachers. Recommendation 3: Ensuring that in-service teachers have protected time during the school days to dedicate to their CPD and attend the online sessions, especially for WTs. Recommendation 10: Ensuring that WTs have a protected window during their school week to dedicate to their CPD.	Continual support and guidance Recommendation 4: Ensuring that technical support and guidance is provided prior to the start of the online sessions. Recommendation 5: Providing continuous support and guidance on English language skills and digital literacy after the completion of the online sessions. Recommendation 6: Creating mechanisms that would allow the continuous interaction and communication among training participants after the completion of the online course.
Incentives and certification Recommendation 7: Providing incentives and certification to training participants after the completion of the online sessions.	Awareness of the training groups Recommendation 8: Arranging first some subject-specific training groups for in-service teachers, followed by some mixed-subject training sessions. Recommendation 10: Considering participants' needs and preferences in the design and delivery stage of the course. Recommendation 11: Adapting the content, resources, tasks and assignments prior to the start of the online course to meet the needs and preferences of different groups of participants.	Flexible and inclusive practices Recommendation 12: Including representatives from different participant groups in the design and delivery of any training programme, who are local. Recommendation 13: Providing mandatory gender and disability awareness training to those who deliver the course. Recommendation 14: Allowing participants to swap training modalities Recommendation 15: Supporting the establishment of participants' social support groups.

Figure 17: Summary of recommendations of the study in relation to effectiveness and quality of implementation and equity and inclusion of STELIR's online stage



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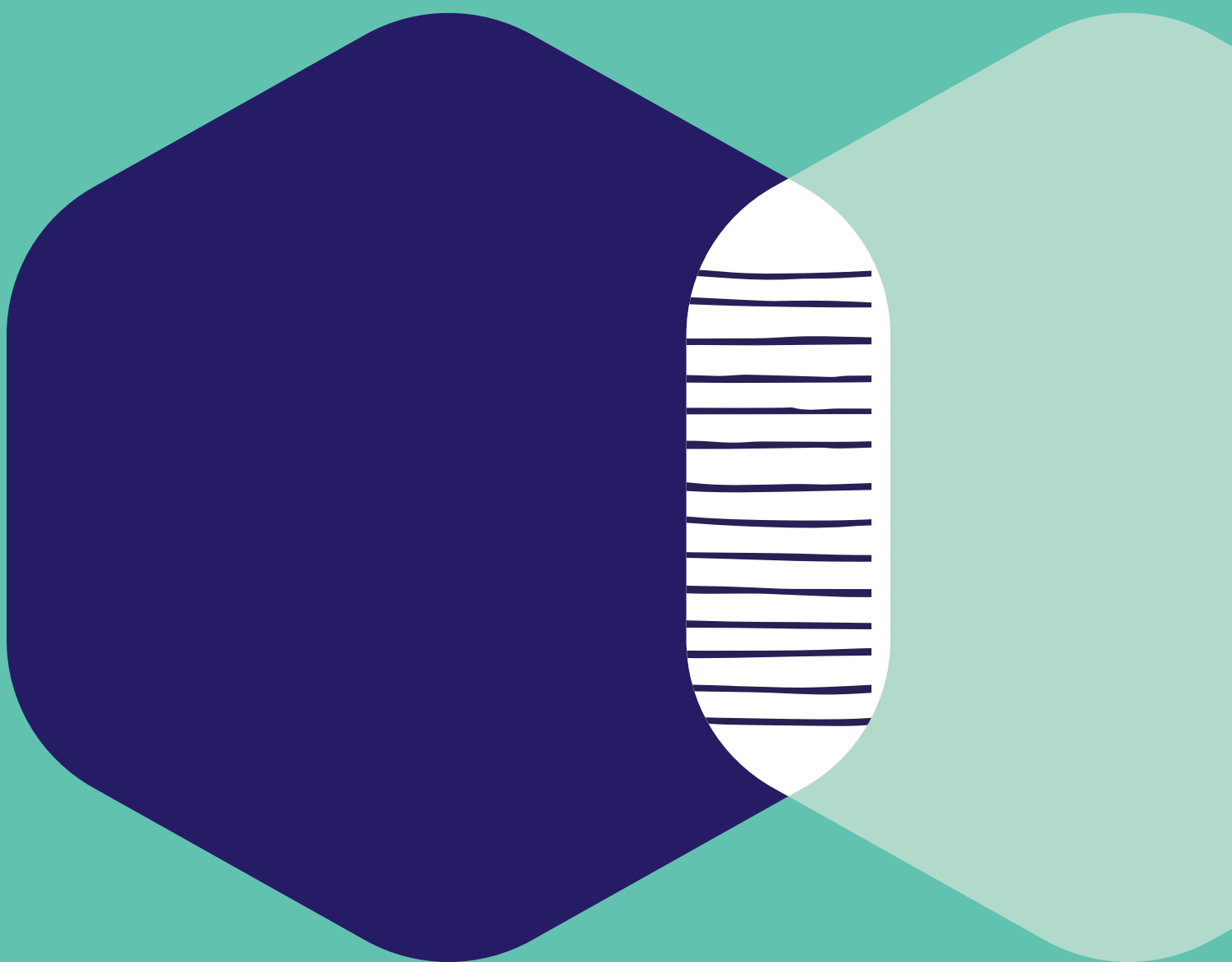
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Appendix 1:

Perceived effectiveness and quality of the STELIR face-to-face sessions

Although this study focuses on teachers', eTMs' perceptions of the online stage of the STELIR course, during the stakeholder engagement activities many participants shared their views of the face-to-face phase of the course. For this reason, Appendix 1 provides an overview of participants' reported positive experiences, challenges and suggestions for improvement of the face-to-face sessions of the STELIR course.

Reported positive experiences

Face-to-face sessions supported teacher interactions

Many pre-service and in-service teachers reported that they preferred the face-to-face training modality compared with the online delivery of the STELIR course because through the face-to-face sessions they had more opportunities to interact, discuss, share ideas, collaborate and practice their English-speaking skills. Interviewees explained that this was also because during the online training they usually faced internet connectivity issues which impeded their active participation in the training and the breakout room discussions which they did not experience in the face-to-face sessions. Additionally, some teachers noted that through face-to-face sessions it was easier for them to receive support from their colleagues, while during the online sessions they usually only received support from the eTM.

“

Face to face was more preferred training because in the online there were a lot of challenges such as connectivity.

(W4, IFG5)

“

Face to face is better. In the face to face, we had more opportunity to discuss.

(M1, IFG6)



WTs' positive views of the face-to-face sessions

The focus groups and interviews with WTs revealed that WTs appreciated the fact that they could bring their caregivers and their children to the face-to-face sessions. Several WTs reported that they were particularly pleased that baby food was provided during the face-to-face training days. Additionally, a preference of the face-to-face sessions over the online ones was reported by most WTs because they were able to actively participate in the training without the distractions that they often faced while attending the online sessions at home.

“

I prefer face-to-face training because we were with others together and we shared our experiences and expressed ourselves together without any distractions. But online, we were alone, and there were other disturbances. I was taking care of the children while doing the training, so there were more distractions.

(W2, FFG1)

Reported challenges

Accessibility challenges

The focus groups with in-service teachers revealed that participants often faced challenges in accessing the venue where the face-to-face training took place. Several in-service teachers reported that the training venue was far away from where they lived, and for this reason it was often difficult for them to travel to the training venue. They explained that because the training venue was usually far away from where teachers live, it was difficult and expensive for them to find transport. More specifically, in-service teachers noted that they often had to take a motorbike rather than the public transport to commute to the training venue of the face-to-face training. However, hiring a motorbike it was considered as an expensive way to travel to the training venue and therefore the money provided to the teachers for transport was not enough to cover their travel expenses. Teachers explained that because the training centre was far away from where they lived, they could not use public transport and had to use motorbikes to travel to the training venue which ended up being more expensive than using public transport. For this reason, teachers noted that the travel allowance that was given to them was often not enough to cover the additional transportation costs. In the words of one interviewee:

“

The venue was far away and difficult to find the transport. It was expensive. The money was given was too little because it was spent on transport. I had to get a motorbike rather than a bus because it was in a rural area.

(W1, IFG4)

More specifically, some interviewees also highlighted that teachers with physical disabilities faced additional challenges when travelling to the training venue because it was far away from where they lived. Teachers explained that participants with physical disabilities did not receive any additional assistance to access the training venue, and for this reason they faced transportation challenges. In some cases, teachers noted that this sometimes exacerbated and increased the level of physical disability.

“

Face-to-face training was challenging for people with disabilities which had to travel far, they did not have specific support when they attended the face-to-face training. People with physical disabilities found it difficult to attend the training because it was really far, and it increases the level of disabilities. For people with disabilities, it was hard to travel so far, especially in mountains on a motorbike can be challenging.

(M1, IFG2)

Moreover, several in-service WT's also reported that the training venue was far away and in areas that were hard to reach by public transport, both of which made it difficult for WT's with children to travel to. Some in-service WT's with families also reported that they received the same transport allowance with men teachers. According to the STELIR documentation, WT's who informed STELIR that they were bringing their caregivers to the face-to-face sessions they were provided with additional allowance to cover the childminders transport. However, according to some WT's the transport allowance was not enough to cover their own, their children's and their caregivers' transportation costs. In the words of one interviewee:

“

In fact, the face training was good. The problem has been for those who have babies. It was very difficult to transport, for the mother, for the children. [...] Normally, transport fees were the same as men, but we had to come ourselves, our children, the caregiver. So, it's a lot more expensive for us.

(W1, FFG1)

Sanitation issues in the training venue

Several in-service teachers also reported sanitation issues at the training venue where the face-to-face training took place. Interviewees mentioned that the face-to-face sessions were conducted in a boarding school. They explained that the training venue usually provides accommodation for young students, and these rooms were deemed to be less suitable for adult teachers. Concerns were also raised by several in-service teachers around the hygiene of the facilities of the training venue.



What I disliked, [is that] we had to move from our place to the training centre, and the way we got treated there was not good. We are mature, we were put in the bed of children, they were not comfortable. The training content was good, but the way we got treated there was not good. We were being bitten by insects.

(M1, IFG4)

Several WTs reported that additional accommodation for caregivers and children was not considered, and WTs were often required to share a bed with the caregivers and their children. Facilitating childcare was seen as a valuable aspect of the face-to-face training, however, additional practical considerations may be needed to reduce these challenges for WTs in the future.

Issues with the timing of the face-to-face sessions

Another challenge reported by several in-service teachers was the timing of the face-to-face sessions. Several interviewees noted that the timing of the face-to-face sessions was inconvenient for them as during the holidays when the face-to-face training was conducted, some teachers were busy marking international exams. Additionally, some teachers highlighted that in order to participate in the face-to-face sessions, they had to be in the training venue for seven days, and, as a result, had to leave their families at home for a significant period of time, which they found challenging.

Reported suggestions for improvement and additional support

Changing the location of the training venue and providing additional financial support for transportation, especially to WTs and TWDs

Based on the above challenges reported by in-service teachers who participated in the focus groups, interviewees suggested that for future trainings it would be helpful if the training venue is closer to where the teachers live. They explained that this will increase teachers' participation in the face-to-face sessions and reduce teachers' travel time to the training venue. If this is not possible, teachers also suggested that they are given additional money that would allow them to cover their travel expenses. For example, they suggested that the amount of food provided in the face-to-face sessions can be reduced and instead teachers are given more financial support towards their transportation to the training centre. In terms of TWDs, teachers also suggested providing additional assistance and support to teachers with physical disabilities to participate in the face-to-face sessions that would help them travel to the training venue. Additionally,

teachers suggested that for future face-to-trainings it is important to improve the facilities and infrastructure of the training venue.

Some WTs' noted that it was challenging for them to find appropriate transport for their family, and that the additional expense when travelling was not accounted for. For example, several WTs reported that women travelling with their children and the caregiver received the same transport allowance as men travelling alone despite travelling with children and a caregiver. This was significant as traveling with a family is more expensive, and it might prevent women from utilising cheaper modes of transport. Additionally, some WTs mentioned that during the face-to-face training they stayed in the same room as their children and their caregivers. For this reason, they suggested that for future training it would be helpful if the venue has a separate room to accommodate the caregivers.

Increasing the duration and number of face-to-face sessions

Finally, several pre-service and in-service teachers suggested increasing the number and the duration of the face-to-face sessions. They felt that face-to-face sessions often allow more interactions among participants and are conducive to better learning. Additionally, they felt the number of face-to-face sessions was unequal compared to the number of online sessions, and that the face-to-face sessions were not enough to cover the needs of teachers and support them in developing their English language speaking skills:

“

We attended 20 units of online learning for 6 months but face-to-face was for just one week. There should be a balance.

(M1, IFG13)

The eTMs interviewed also suggested the inclusion of additional face-to-face sessions, and the extension of the in-person training to at least two weeks for all levels, not only the lowest.



Appendix 2:

Process Evaluation Findings by Research Question

The following section presents the findings of the process evaluation of STELIR's online stage, structured around the key research questions of the study.

RQ1: What are the main barriers to participation by WTs and TWDs in blended / online CPD, and how can these best be addressed?

Equity and Inclusion – Women Teachers

Reported challenges

Key Finding 1: For in-service WTs, the timing of online sessions often clashed with childcare responsibilities

According to in-service WTs, one of the main challenges they faced in participating in the online sessions of the STELIR course was the timing of the sessions during lunchtime or on the weekends, which often clashed with childcare responsibilities and household chores.

Key Finding 2: The additional load of online learning was difficult to reconcile with existing responsibilities which disproportionately impeded WTs' participation

All in-service WTs reported that they had to balance conflicting responsibilities which disproportionately impeded WTs' participation in the online sessions. More specifically,

in-service WTs highlighted that they faced challenges in finding the time for online learning alongside their many personal and professional responsibilities and commitments, as well as finding the time to study and prepare for the online sessions due to their conflicting responsibilities.

Key Finding 3: For in-service WTs, distractions at home often disproportionately impeded women teachers' active participation in the online sessions

Distractions at home were often a challenge for in-service WTs' participation in the online sessions of the STELIR course. The majority of in-service WTs reported that they were often distracted by childcare responsibilities or were interrupted by unscheduled visits (e.g. family, neighbours, friends, etc). These distractions and interruptions impeded teachers' participation in the training, especially in the speaking activities and had a negative impact on their learning. In-service WTs and eTMs attributed this to several socio-cultural factors, as they explained that women in Rwanda are expected to prioritise taking care of their

children and family members, making it difficult to engage in other activities while at home. Therefore, most in-service WTs expressed a preference for the face-to-face training, as they felt that they learnt more from this modality because there were fewer distractions.

Key Finding 4: Challenges using digital tools and resources

Findings regarding the challenges using the digital tools and resources are mixed. Some in-service and pre-service WTs expressed their familiarity with using the tablets, while some eTMs and other WTs reported that they found challenges in using the tablets, turning their microphone on and off and joining the meetings. Survey findings indicate that most WTs found using the tablets very easy, compared to most men teachers who found using the tablets easy. Both WTs and men teachers reported that although they received technical support in using the tablets through the STELIR help-line phone and the WhatsApp community, they would like to receive additional technical support on how to use different digital tools and social media platforms and resources to conduct independent research.

Key Finding 5: For pre-service WTs, the timing of the sessions often clashed with other academic courses

The study found that in-service and pre-service teachers experienced different types of challenges in participating in STELIR's online stage. Pre-service teachers highlighted that their main challenge in participating in the online sessions was that the timing of the sessions often clashed with other academic courses, in contrast with in-service WTs who reported that they often faced challenges in attending the online sessions due to their domestic and care responsibilities.

Reported suggestions for improvement and additional support

Key Finding 6: Reviewing the timing of the online sessions

To increase WTs' participation in the online sessions of the STELIR course, WTs suggested arranging the online sessions during the school holidays when teachers have more free time to participate in the online sessions. Some WTs also suggested having a protected time window during the school week to dedicate to their learning and CPD, which they could use to attend the online sessions. This will allow them to better concentrate on their learning and CPD.

Key Finding 7: Providing continual technical support and guidance

In-service and pre-service teachers (including both WTs and TWDs) and eTMs reported that they would like to receive additional and continuous technical support and guidance in using the tablets, using different social media platforms and resources, joining meetings, and using digital tools for their own professional development. Additionally, they mentioned that they would like to receive technical support and guidance before the start of the live online sessions to prepare participants and ensure that everyone knows how to use the tablets and how to join the sessions.

Equity and Inclusion – Teachers with disabilities

Reported challenges

Key Finding 8: Lack of eTMs awareness about the participation of VITs prior to the training

VITs faced challenges emerging from the eTMs lack of awareness or adaptation of their teaching practices to meet the teachers' needs. eTMs were not made aware that VITs were taking part in the training. They agreed that there was little awareness in general around disabilities and that teachers with disabilities were not considered. Consequently, this impeded the teachers' participation, engagement, and interaction with other participants. For example, VITs reported being left out of breakout rooms because they did not receive support to be able to join.

Key Finding 9: Lack of visual aids, voice recognition software and resources in Braille

Another concern was the lack of available visual aids, voice recognition software, books and material in Braille, as well as the lack of accessible materials for visually impaired participants more generally. For example, one VIT mentioned having to use her phone to join online sessions as, unlike the tablets provided, it has voice recognition software. VITs expressed that although using accessibility features such as these was helpful, the lack of accessible content impeded their full participation as they still required assistance to join sessions, complete activities or take notes. This was particularly challenging as the activities were predominantly written tasks which were challenging even with assistive technology.

Key Finding 10: Course materials and assignments not reflecting the needs of VITs

All participants reported that the course materials, tasks and assignments were not adapted to the needs of visually impaired participants. Interviewees explained that the tasks in online sessions were mainly photo-and-picture-based assignments or drag-and-drop tasks. VITs were reportedly not offered alternative assignments but instead required assistance from others (in their home or neighbourhood) to complete them.

Key Finding 11: Lack of additional assistance for VITs

All focus group participants highlighted the lack of additional assistance for course assignments. VITs were often reliant on assistance from others to complete assignments, which was challenging as people were not always available. VITs expressed a desire for support and assistance beyond that provided by the eTM. Notably they highlighted that such assistance may not be necessary if the course materials and assessments had been tailored to their needs – e.g. if the tablets had voice recognition software and they had resources in Braille.

Reported suggestions for improvement and additional support

Key Finding 12: Adapting the content, tools, resources and tasks of the course to meet the needs of participants with disabilities

Interviewees agreed that there is a need to adapt the content of the programme, the digital tools, the resources provided and the assignments to address both the needs of visually impaired participants and those of participants with other disabilities. For visually impaired participants, interviewees suggested the provision of tablets with screen reader, voice recognition and other visual aid materials and software, and the development and dissemination of resources in Braille, including the course content and assignments. Other suggestions included providing a glossary of English terms in Braille, making self-study materials more accessible (e.g. by using text-to-speech software) and adapting the content of online sessions.

Key Finding 13: Providing additional support and assistance to participants with visual impairments

All visually impaired participants agreed that they would have benefitted from additional support and assistance – beyond that provided by the eTMs – when completing course assignments. They suggested designating someone to support them in navigating the specific visual interface used for the assignments (e.g. the software, the REB website), particularly as screen readers and voice recognition software can fail – e.g. skipping words or sentences, reading a lot of text in one go, or reading it too fast. Alternatively, they suggested adapting assignments by including audio scenarios and/or questions, and providing larger data bundles to compensate for the additional time needed to navigate the software and/or interfaces.

Key Finding 14: Clearly communicating to eTMs that they will be training people with disabilities, and providing training, support and guidance to eTMs and ETs on how to appropriately support them



Ensuring that trainers and moderators know when they will be training participants with disabilities that can affect their experience of the training, such as participants with visual impairments in an online training scenario, was considered essential by all focus group participants. They explained that if eTMs are aware that there are people with disabilities attending a course prior to the training, they can better and more appropriately prepare and adapt their teaching practices.

Key Finding 15: Including/consulting people with different disabilities during the design and delivery stages of the course

All VITs agreed on the importance of including representatives from different groups of participants with disabilities in the design and delivery of any training programme. Participants specified that those consulted should be local so that they can better understand the challenges faced by TWDs in that particular context.

Key Finding 16: Including the topic of special and inclusive education in the content of the course

Participants identified that the topic of special and inclusive education was not always covered in the course content. They suggested that a topic on special and inclusive education should be added to expand their knowledge and skills around special and inclusive education.

RQ2: What is the perceived quality and value of the STELIR blended CPD experience, including whether all participants are treated equally?

Reported positive experiences

Key Finding 17: Positive views of the content, structure and teaching methodologies of the live online sessions

In-service and pre-service teachers participated in the Stage 2 (online) of the STELIR course, expressed positive views around the content, structure, the length and teaching methodologies used in the live sessions on Webex. Both in-service and pre-service teachers reported that they enjoyed the pedagogical strategies and activities used in the live sessions, as well as the wide range of topics covered during the sessions which according to the teachers, reflected the Rwandan social and cultural context.

Key Finding 18: Positive views of the blended online and face-to-face modality

Most in-service and pre-service teachers expressed positive views of the blended and face-to-face modality of the course, with most teachers finding a combination of those two modalities very useful. However, a slightly higher number of teachers reported a slight preference of the face-to-face modality.

Key Finding 19: Generally positive views of the role of the eTMs

In-service and pre-service teachers expressed mixed views on the role of eTMs. On the one hand, some teachers reported that the eTMs were responsive, supportive, engaging,



had good time management, classroom management skills and English language skills, used a variety of teaching methodologies, and provided technical support to teachers. On the other hand, some teachers reported that often eTMs had limited digital skills and they were often unable to provide technical support to teachers. Additionally, some teachers highlighted that some eTMs were not confident in speaking English. This was likely because during the time of this evaluation the eTMs were still in training for this first year of the course, and they were shadowing the international e-trainers who also delivered the online sessions, being mentored by them.

Key Finding 20: Positive views of the role of the international e-trainers

Most in-service and pre-service teachers expressed positive views of the role of international e-trainers, especially around their ability to summarise the content of the sessions, their English language skills, their ability to encourage everyone to participate in the online discussions, their teaching methodologies and the level of support they provided to teachers. eTMs also reported that the international e-trainers were useful role-models to imitate, and they found their teaching methodologies and English language skills particularly useful.

Key Finding 21: eTMs' positive views of the NILE course

eTMs across all focus groups reported that the NILE course had been successful in preparing the eTMs to teach online. eTMs reported that they enjoyed the content of the course as well as the fact that the course had enabled them to develop digital skills.

Key Finding 22: VITs felt included in the online sessions

Visually impaired teachers reported feeling included in the online sessions and felt that they could participate and cooperate with others. Notably, VITs felt more included in the online rather than in the face-to-face training

as other participants were not aware of their impairment, so treated them equally. Similarly, once trainers were aware that participants had visual impairments, they tried to support them and further include them in the sessions.

Key Finding 23: eTMs and international e-trainers supported VITs

All participants mentioned that the trainers were surprised that teachers with disabilities were participating in the training. However, the TWDs interviewed felt that the trainers were pleased when they found out and acted supportively. For example, trainers tailored their approach to include them in the online training, were available for assistance when needed, and offered follow up-support.

Reported challenges

Key Finding 24: Internet connectivity issues

Pre-service and in-service teachers, eTMs interviewed highlighted that the most prominent barriers to accessing the online sessions were internet connectivity issues. Many teachers, especially those living in rural and semi-rural areas, faced significant disruptions to their internet connectivity, or even lacked electricity. The limited internet connectivity and network issues often impeded teachers' active participation and engagement in the online sessions.

Key Finding 25: Limited data bundles

Most pre-service and in-service teachers across all focus groups explained that the data bundles provided by the STELIR team (5 GB per week) were not sufficient to cover all of their learning needs – namely, accessing the online sessions or self-study materials, and conducting the self-study assignments. Additionally, participants reported wanting to access other platforms – e.g. YouTube – either to improve their English skills or their teaching practices, but the data bundles were not enough to cover independent research (nor did the tablets provided allowed for certain educational apps to be downloaded).

Key Finding 26: Challenges around the timing of the online sessions

Another key challenge highlighted was the inconvenient timing of the online sessions. Online sessions were usually conducted on weekends when most teachers have other commitments and responsibilities – such as family and household responsibilities, visits and social events (such as weddings, funerals, social activities, going to church). Several in-service teachers mentioned having other jobs and businesses which they run over the weekends – meaning their participation in the online sessions resulted in a temporary loss of business and income (as they received no compensation for the time spent on training). eTMs interviewed also noted the sessions conflicted with the period of examinations that are a part of pre-service teachers' studies, resulting in low attendance.

Key Finding 27: In-service teachers' increased workload and responsibilities

Concerns were also raised by in-service teachers concerning their workload, busy schedules and responsibilities. In the focus groups, in-service teachers shared that their teaching workload (e.g. marking, lesson planning) makes it challenging to find time for the course assignments. This also indicates that having the live sessions on the weekdays would also likely be inconvenient for teachers.

Key Finding 28: Challenges concerning the difficulty level of the online sessions

Some focus group participants expressed that the difficulty level of the content presented a challenge. More specifically, some teachers found the content to be too challenging, but others (particularly English teachers) found the content to be too easy. Being in mixed subject groupings therefore presented a challenge as teachers of different subjects had different preferences and experiences.

Key Finding 29: Climate-related disruptions

Several in-service teachers mentioned climate-related disruptions as another challenge to their effective participation in the training. Interviewees explained that heavy rain which occurred during the training (due to the extended rainy season) caused a lot of noise, making it difficult to hear the online sessions. Additionally, the heavy rain caused internet connectivity issues, particularly for those in rural areas.

Reported suggestions for improvement and additional support**Key Finding 30: Ensuring teachers' continuous interaction after the completion of the training**

Most of the in-service and pre-service teachers reported that they would like to continue interacting after the completion of the training, allowing them to practice their English-speaking language skills, and discuss potential challenges. Creating mechanisms that would allow participants to continue interacting after the training was considered an essential precondition for longer-term impact and sustainability of the training.

Key Finding 31: Ensuring teachers have protected time to participate in the training

Most teachers suggested having protected time for teachers during the school week to dedicate to their CPD. Alternatively, some teachers suggested arranging the training over the holidays, when most teachers have more free time as beneficial. Overall, there was a consensus that it would be beneficial to consult teachers to ascertain the times that are most convenient for most people. Pre-service teachers also suggested that the British Council coordinates with universities regarding the timings of the online sessions.

Key Finding 32: Providing incentives and certification after the completion of the course

Financial rewards and certification were also suggested by most in-service and pre-service teachers. All participants agreed that they would like to receive a certificate of attendance after training completion as this is important for their career development and progression.

Key Finding 33: Increasing the number of international e-trainers and promoting international collaborations

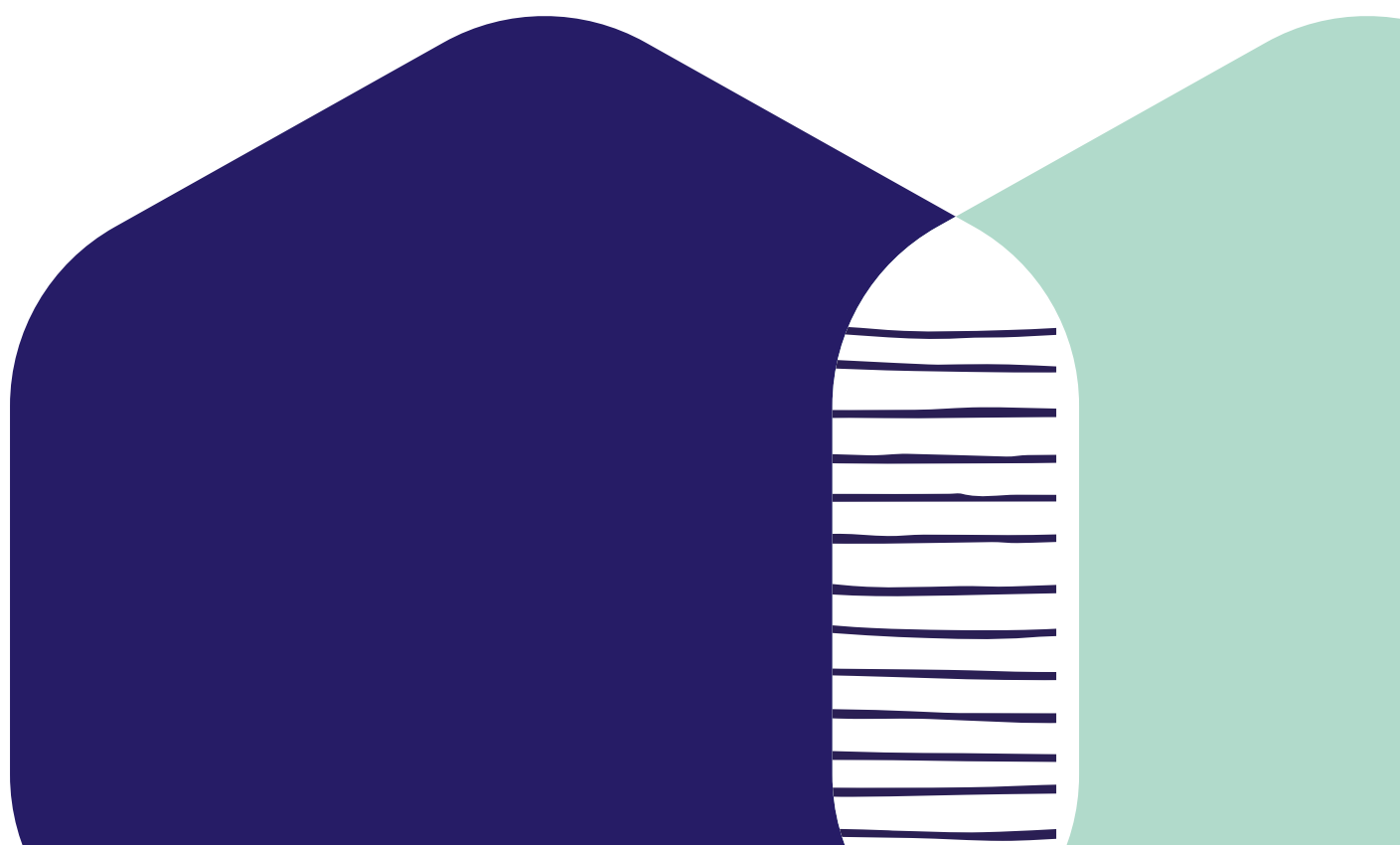
Teachers would like more interaction with international e-trainers who are native English language speakers. Some pre-service teachers noted that they would like more opportunities to collaborate with teachers from other countries. Teachers expressed that this would support them with improving their English-speaking skills, improving pronunciation, and enhancing their confidence in communicating with others in English.

Key Finding 34: Rearranging the training groups based on in-service teachers' subject

Several in-service teachers also suggested that they would like to have separate training groups for teachers from different subjects. For example, one training group for lower secondary English language teachers, one training group for science teachers, one training group for mathematics, etc. That said, some science teachers noted that the mixed ability groupings allowed them to learn from more proficient colleagues. As such, teachers agreed that there are also benefits of perceived mixed-ability groups, and a model that mixes both – e.g. training separate by subject, followed by mixed-subject training to allow teachers with different English language levels to interact.

Key Finding 35: Providing post-assessment feedback and additional guidance on course assessment

Focus groups revealed that teachers would like to receive further feedback from assessments. Furthermore, participants expressed that they would like to receive clearer and more transparent guidelines on the assessment of the overall training, so that they can better recognise their strengths and areas for development.



RQ3: In a culture where face-to-face interaction is preferred, including in education, what effect does the introduction of remote forms of learning have on engagement in CPD programmes?

Key Finding 36: Impact on teachers' digital skills and literacy

Most in-service and pre-service teachers reported an improvement in their digital skills and literacy as well as an increase in their confidence in using digital tools and resources after the online induction and the online sessions of the STELIR course. They further reported that they improved their skills in using the tablets, muting and unmuting their microphones, joining the virtual break out rooms, using social media platforms such as WhatsApp, and using the tablets to conduct independent research for their professional development.

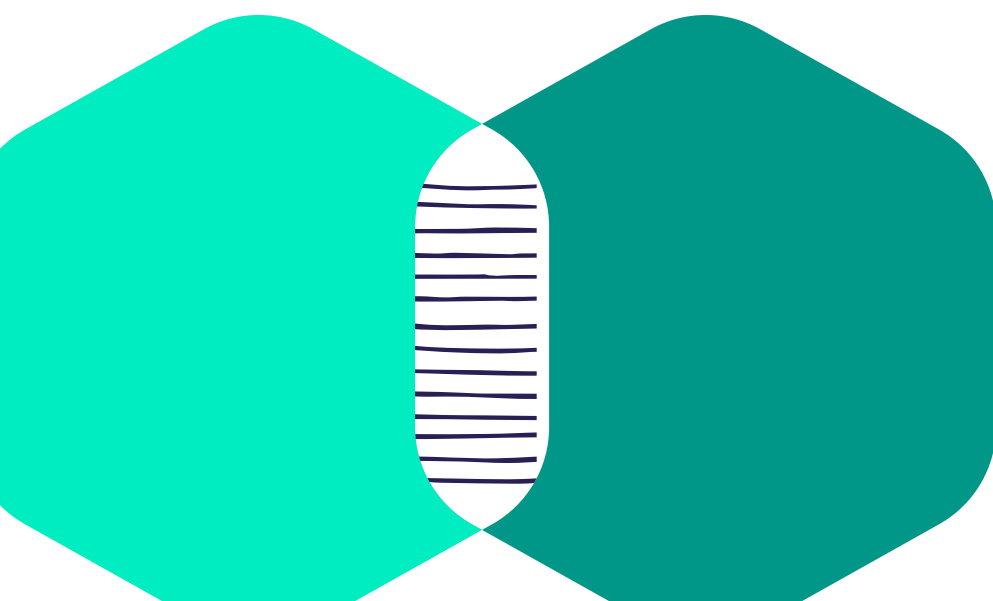
Key Finding 37: Impact on teachers' English language proficiency and confidence in speaking English

In-service, pre-service teachers and eTMs reported a positive impact of STELIR's online stage on teachers' English language skills, especially their grammar, vocabulary, speaking and listening skills. Additionally, interviewees highlighted an increase in teachers' confidence

in speaking English as a result of their participation in the Stage 2 (online) of the STELIR course because they had opportunities to discuss with eTMs, international e-trainers and other teachers, and share learning and experiences through collaborative group activities which took place in the virtual break out rooms.

Key Finding 38: Impact on teachers' social skills and time management skills

In-service and pre-service teachers interviewed reported that they saw an improvement in their social and time management skills as a result of their participation in the Stage 2 (online) of the STELIR course. They explained that this was because of the interactive nature of the live online sessions on Webex, the virtual break out rooms and the group activities which provided a space for social interaction, discussions and dialogue among training participants, which allowed them to improve their social and communication skills. In terms of time management skills, some teachers reported having to manage their time effectively to attend the online sessions, which strengthened their organisation and time management skills.



RQ4: What proportion of STELIR teachers have limited ICT skills, and to what degree?

Key Finding 39: Increased confidence in using the digital tools after the participation in STELIR's online stage

Most in-service and pre-service teachers responded to the survey reported an improvement in their digital skills and literacy – with 54% of survey respondents strongly agreeing and 43% agreeing that taking part in the online component of the STELIR course had improved their skills in using digital tools and devices (such as tablets). 95% of survey respondents also reported now feeling either very confident (74%) or confident (21%) in using digital devices (i.e. post-training) – representing a significant confidence jump from a pre-training starting point of 16% (very confident) and 43% (confident), respectively.

RQ5: How effective are measures adopted to support teachers with limited ICT skills in terms of increased participation and engagement levels in online learning?

Reported positive experiences

Key Finding 40: Positive views of the STELIR help-line phone and the WhatsApp community

Most in-service and pre-service teachers highlighted that they found the STELIR help-line phone and the WhatsApp community very helpful or quite helpful in getting technical support. In-service WTs reported that they experienced some challenges with the timings of the online sessions. After the challenge with the lunchtime sessions was identified, the timings of the training were adjusted according to the timing suggestions received via the women's support WhatsApp communities. Following that, the STELIR team adjusted the timings of the live sessions after week 5 of the online stage (when this was identified) to accommodate the needs of WTs.

Key Finding 41: Positive views of the material on the REB website

The self-study material on the REB website was also found to be very useful by most in-service and pre-service teachers who reported that this allowed autonomous learning and development.

Reported challenges

Key Finding 42: Challenges in using the tablets

Teachers' lack of familiarity with online learning and the use of tablets often presented a barrier to their participation in the training. Although they could (and did) request support from eTMs and other teachers when such challenges occurred, the time spent on fixing issues sometimes meant they had to miss parts

of or entire online sessions. eTMS consequently agreed that teachers' digital skills presented a challenge when participating in the online learning course.

Key Finding 43: Mixed levels of participation in the virtual breakout rooms

Another challenge mentioned by several pre-service and in-service teachers and eTMs was the mixed levels of participation in the online sessions and the breakout rooms. Several in-service teachers mentioned that, because levels of participation varied (i.e. some teachers participated whilst others did not), it limited teachers' ability to effectively collaborate and share ideas. As a result, several teachers mentioned that they sometimes missed the dialogue and opportunities to interact with each other.

Key Finding 44: Lack of follow-up after the completion of the online sessions

Several in-service and pre-service teachers across most focus groups mentioned the lack of follow-up and continuous support after the completion of the online course as a barrier to the impact and sustainability of the training.

Reported suggestions for improvement and additional support

Key Finding 45: Providing additional support on English skills and digital literacy

Most teachers reported that they would like continual access to the course materials following the completion of the training, allowing them to revise specific units and topics and refer back to these whenever needed. Interviewees highlighted that this can be achieved by disseminating soft or hard copies of the resources used during the online training, or by uploading the STELIR course materials to YouTube. Regarding digital skills, more training on digital literacy was suggested, as well as allowing trainees to keep the tablets for a longer period of time.

Key Finding 46: Increasing data bundles, and ensuring internet connectivity and infrastructure are in place

There was an identified need to strengthen internet connectivity, facilities and infrastructure, and to increase the data bundles provided to the teachers. Specifically, pre-service teachers suggested improving the internet connectivity and providing additional digital support for teachers in rural areas, where the internet connectivity is usually unstable. Some teachers highlighted that the provision of additional data bundles would allow them to download more material and resources from the REB website. Other interviewees suggested providing teachers with unlimited data bundles and internet access or, alternatively, for the internet to be split into 3GB across weekdays and 2 GB for the weekend.



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