Overview of the Innovation
The project ‘eTeacher Training at Teacher Training Colleges’ aimed to increase the integration of Information and Communication Technology (ICT) into the pedagogical practice of teacher trainers at Teacher Training Colleges (TTCs) and teachers at a selected secondary school. In the longer term, it was envisaged that this would lead to (i) higher capacity for e-teacher training in Rwanda, (ii) increased ICT skills among TTC tutors and secondary school teachers, (iii) change in teaching practices in TTC and secondary classrooms and (iv) more student-active learning in secondary schools.

The main activities were the implementation of an eTeacher training course. The e-teacher training course used a blended approach combining individual learning through an internet-based programme using a Moodle platform (Moodle is a free and open-source learning platform using the Internet), with additional support and peer learning from 11 e-tutors (teacher trainers trained for this role by the project). The peer learning element was further strengthened through the development of an online community of practice using the same Moodle platform as well as Facebook. The focus of the course was strongly on classroom application, i.e. the actual use of new teaching practices and different technologies in the classroom and on the reflection on this classroom application.

The innovation targeted in-service teacher training through the professional development of TTC tutors in five TTCs in Rwanda. Consideration was also given to the potential for eTeacher training in in-service training through a pilot implementation in one secondary school. 84 teacher trainers (TTC Tutors) and 24 secondary school teachers participated in the programme.

Total project budget was GBP 154,111.

Grant Recipient:
The project was managed by MKFC Economical Association, a Swedish financial association linked to Stockholm College, in collaboration with Education Finder Rwanda.

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What makes it innovative?
This project was innovative in two distinct ways. The first was through the introduction of an online-based teacher training model which was new to the Rwandan context but which had been successfully implemented in Eritrea, Somalia, Ghana, Kenya, Palestine and Pakistan.

Another element of the innovation was the use of the blended approach for teacher training, combining autonomous learning through cost-effective technologies, with peer support and learning, both face-to-face and web-based.

Relevance to education priorities:
Main theme: effective teaching and learning
Sub-themes: technology
The project was very relevant to the ESSP priorities for ‘developing a skilled and motivated teaching, training and lecturing workforce’ and ‘strengthening education in science and technology’. This innovation also addressed the ESSP objective of ‘integrating ICT within all subject areas’.

Project Learning (activity/output to outcomes level)
- The course on the Moodle platform is clear and well-structured, especially the steps to follow for each assignment:
Step 1: Introduction including pre-course survey
Step 2: Reading - article about the topic, advanced reading,
Step 3: Discussion after reading (through discussion forum),
Step 4: Implementation of theory in the classroom
Step 5: Writing: write a brief report of the implementation, i.e. the assignment.

- Participants engaged well with the content in part because of the strong focus of trainees on ‘doing assignments’. However, there may be a need for building in higher levels of [peer] reflection.
- The role of the e-tutors is crucial and is seen as an important way to support and facilitate the individual learning taking place through the learning platform.
- TTC teacher trainers and teachers in the secondary school went through the same programme but there may be a need for differentiated approaches for developing the skills of these different beneficiary groups
- Responses from teacher trainers confirm that the pilot is very much framed around ICT skills and the use of ICT in the classroom. There is potential to put more emphasis on the change in classroom methodology to arrive at increased levels of student engagement.
- The average drop-out rate of TTC tutors seems high, but needs to be seen in perspective: one individual TTC (TTC Save) caused the majority of drop out cases, which is linked to specific issues at that particular TTC. The reasons for drop out are mainly related to technical difficulties with internet connectivity, which made online sharing among teacher trainers difficult.
- A significant issue related to project sustainability is the question of internet connectivity and the stability of the technical infrastructure necessary to implement e-learning in Rwanda.

**Project outcomes and reflection on monitoring and evaluation**

The innovation was evaluated based on five treatment TTCs and one control TTC, and one treatment secondary school (however, the control TTC results are not discussed). The methods were both qualitative and quantitative and included systematic classroom observation of classroom practice, interviews and focus group discussions with TTC and school teachers and future e-tutors, and analysis of the eTeacher training course results, questionnaires and web statistics.

The final evaluation showed that 66% of teacher trainers and 96% of teachers completed the e-teacher training course. The use of technology in the classroom increased significantly from the baseline in all the TTCs and the secondary school. ICT was used in 13 of 16 lessons
observed (compared with 2 in 20 in the baseline) and 70% of teacher trainers reported that they used ICT at least twice a week (as compared with 48% in the baseline). There was also some improvement in the TTC use of student-active teaching.

The pedagogical adoption of ICT by teachers is a complex process influenced by many factors of both contextual and individual nature: contextual factors such as infrastructure and ease of access to technology, perceived technical and pedagogical support and organisational factors; the teachers’ approaches to teaching and learning and attitudes to teaching with technology.

The study was well conducted and the combination of qualitative and quantitative data is put to good use to substantiate the results and hence the conclusions. The validity and reliability of the instruments, particularly for the classroom observation, were not established.

**Conditions for success**

The project’s implementation was largely dependent upon the availability of the technology. A positive aspect of the programme was that it used technology that was already available: all TTCs have one or more ICT rooms. However, there were issues during the project with the availability of internet connectivity, notably in rural areas, which had implications for teachers’ access to resources and regular engagement with the modules.

The project has shown that there is potential for eTeacher training to develop teacher ICT and teaching skills in Rwanda but highlights that keeping key stakeholders (in this case teacher trainers and teachers) engaged and implementing pedagogical change takes time and resources.

The innovation has provided an initial infrastructure for further development of e-learning in line with the ESSP strategic priorities in building ICT competence in schools. Its sustainability relies on the maintenance of the technological platform, the sustained competence of etutors, internet access at district level, and organisational ownership within REB. The foundations for an institutionalised future were laid during the project with REB being trained to manage - and, in fact, being handed over the management of - the Moodle learning environment.

**Scale up & sustainability considerations**

The proposed scale-up package is the same as the adjusted package that was used in the final stages of the project. This will mean scale up to all TTCs and secondary schools in the country, leaving the management of the overall learning platform with the REB ICT department and having TTC tutors and secondary school teachers follow the online course and participating in the community of practice. The training course will consist of four main steps: (i) preparation and initial one-day workshop, (ii) train the facilitators (i.e. the e-tutors), (iii) train the teacher trainers/teachers and (iv) course evaluation, certification.

Very limited external support from MKFC would be required during scale up, which would be mainly limited to technical advice with regard to Moodle as well as coaching of the coordinator, etutors and REB. There is potential for this programme to be scaled up and institutionalised given the strong commitment and support by REB, and the relatively modest additional investments in the future, which could come from the REB budget (emphasising the need for REB to include this in their annual budget). The chances for successful replication in all TTCs and secondary schools are enhanced by REB ICT Department’s selection of this project as the best IfE project working in the area of ICT. This shows the interest of the government in sustaining the programme and embedding it in the existing structures.
MKFC has already made substantial efforts to create the conditions for a successful transfer of project activities to REB, specifically the Department for ICT in Education and ODeL. The project has liaised very closely with the assigned government counterpart and also built the capacity of (i) the future programme coordinator, (ii) the training manager, and (iii) the Moodle technical manager (all REB staff).

Although additional investments needed to manage the system in the long run are relatively low, this also needs to be seen in the context and scope of the innovation: this is a niche initiative that works in a specific technical area and does not provide an alternative model for system-wide teacher training. However, if seen separately from the specific domain of this innovation (i.e. ICT skills and use of ICT in the classroom), the blended approach used for teacher training could be used as an input to further reflections within REB about how teacher training could take place in the future, and how it could result in improved teaching practices.

The issue of scale up to secondary schools is taken into account in the above scale up considerations. If pursued, it would require significantly higher investments in terms of ICT, budgetary and human resource requirements due to the volume of schools involved. It would also be working with in-service teachers rather than in-service tutors at TTCs and so require significant adaptations to the model. One major risk factor in scaling up the project is the heavy dependency on a limited number of government staff whose capacities have been strengthened with highly specific skills. For this reason continued support from MKFC is also advised to ensure that necessary capacities are spread among a larger group of Government staff.

Cost considerations
Two costed scenarios have been presented by MKFC:
- **Scenario 1:** REB to fully take over the training and entire programme reaching out to 24 schools and 408 trainees [teachers/tutors], including salary payments to future eTutors and e-tutor coordinator, at an annual cost of GBP 12,500.
- **Scenario 2:** As above, but with MKFC to support strengthening ‘institutional readiness’ of REB and provide further technical assistance in relation to the management of the ICT platform, coaching the e-tutor coordinator and etutors, and maintaining strategic oversight. The cost also includes formative evaluation of the training program. Cost will be GBP 32,447 for the first year, reducing as MKFC support will be gradually withdrawn.

In order to guarantee continuity of the programme, the second option is preferred as it provides a better opportunity to achieve quality scale up.

The above does not include equipment/internet connectivity related costs at school and TTCs.

Immediate next steps
- REB to analyse its budget and assess the budgetary space to spread the intervention to all TTCs and optionally secondary schools in Rwanda. This analysis will need to take the opportunity costs into account and assess the implications for alternative use of the same resources.
- REB to decide on whether to (i) replicate the programme in other TTCs only or (ii) to expand the programme to secondary schools as well.
- REB to identify ways to ensure full internet access in all TTCs.
- REB and MKFC to jointly assess opportunities for an ongoing MKFC role in a scale up programme.
- Through the TPD Technical Working Group and the Pre-Service Teacher Training Task Force, reflect on wider systemic opportunities such as integrating open and distance learning in pre-service and teacher professional development, including the integration of [aspects of] the programme in teacher training curricula.

This programme was piloted with support from the Innovation for Education Fund, a partnership between the Governments of Rwanda and the United Kingdom. The fund was managed by Cambridge Education, a member of the Mott MacDonald Group.