

## **How can stakeholders provide comprehensive solutions to improve literacy for Rwandan primary students?**

**Ellie Hardegree**

Lacking literacy skills in the modern world puts one at a huge disadvantage because it is critical to empowerment, economic success, and securing quality healthcare and other services in the modern world. Literacy also allows for individuals to express their ideas in the global community. However, although literacy is a fundamental human right as declared in the Universal Declaration of Human rights, around 14 percent of adults in the global community are considered to be illiterate. This number varies greatly depending on the country, with literacy rates as high as 99.99 percent and others as low as 35 percent.<sup>1</sup> The United Nations Sustainable Development Goals recognize the need for improving literacy rates around the world in goal 4.6, which sets a target to ensure by 2030 that “all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy.”<sup>2</sup>

Comprehensive solutions are needed for creating effective literacy growth. Research on comprehensive literacy solutions has been done by Dr. Aaron Benavot, a professor at the University of Albany who focuses on comparative education research and global education policy. Benavot argues that in the 21st century there are many factors that impact the learning of literacy, and provides many guiding ideas about how to address the topic of literacy improvement. His recommendations in pursuing literacy research are shown to ensure maximum efficacy in the creation of thorough solutions. First, it is crucial to make literacy solutions context-specific.<sup>3</sup> Following this advice my research has focused specifically on literacy programs in Rwanda, a country of 13 million people in Sub-Saharan Africa, in order to determine the main cultural practices and challenges in the country’s educational programs. This evaluation of cultural contexts also prevents irrelevant content and pedagogy in literacy programs. Furthermore, it is crucial to think comparatively about literacy policies across contexts to analyze emergent themes.<sup>4</sup> In this way, solutions around the world that have been applied to literacy challenges can be evaluated in the way they could impact Rwanda’s educational progress. Benavot also outlines harmful practices in literacy research. Having multiple definitions of literacy is problematic to research and interventions as it makes the goals of the endeavor unclear.<sup>5</sup> For this reason, I have chosen to narrow in on early literacy, including pre-primary (before grade 1) and primary level students (grades 1-3), with the Early Grade Reading Assessment (EGRA) as my definition of literacy skills.

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<sup>1</sup> "UNICEF Global Database on Literacy Rate," chart, April 2021, <https://data.unicef.org/topic/education/learning-and-skills/>.

<sup>2</sup> "The 17 Goals," United Nations, <https://sdgs.un.org/goals/goal4>.

<sup>3</sup> Aaron Benavot, "Literacy in the 21st Century: Towards a Dynamic Nexus of Social Relations," *International Review of Education* 61, no. 3 (2015): <https://www.jstor.org/stable/24637265>.

<sup>4</sup> Benavot, "Literacy in the 21st."

<sup>5</sup> Benavot, "Literacy in the 21st."

This paper evaluates early literacy in Rwanda, a country with 73 percent of its residents reported to be literate. Although Rwanda's literacy rate is above the 65 percent average for Sub-Saharan Africa, the country still lags behind the global average of 86 percent.<sup>6</sup> Why is Rwanda a good area of focus for this paper? Rwanda's government has been committed to educational progress, making it a country invested in the achievement of their youth. Yet, education-related indicators still put Rwanda in the bottom 25 percent of countries globally showing that the country is in need of further development to reach their goals.<sup>7</sup> In order to improve basic education, Rwanda is confronted by the same two challenges as many other countries: access and quality. However, Rwanda has made immense progress with their primary education attendance rates in the past 25 years. Despite this, the country's youth learning outcomes remain low.<sup>8</sup> This means that Rwanda must focus more on improving the quality of their educational programs which will produce higher learning outcomes and reduce the gap between years of school attended and level of learning reached.<sup>9</sup> Furthermore, the country is in need of new solutions as improvement in educational statistics has recently slowed and even plateaued in many aspects, including early literacy.<sup>10</sup> For these reasons, Rwanda provides a compelling educational context for research into new and effective solutions for improving quality learning outcomes, with a specific focus on early literacy.

The fairly new results from the United States Agency for International Development (USAID) Early Grade Reading Assessment (EGRA) that was conducted in Rwanda in the fall of 2018 offer a snapshot into the reading performance of Rwandans grades 1 through 3 students in 6 crucial subtasks: listening comprehension, letter identification, syllable sound, word reading, oral reading fluency, and reading comprehension. In terms of Oral Reading Fluency (ORF), which refers to the correct number of words read per minute, only 20% of grade 1, 15.5% of grade 2, and 3.9% of grade 3 students were at grade level.<sup>11</sup>

This paper will evaluate the main challenges that Rwanda faces in improving early literacy, and will provide recommendations on ways to address these challenges. The evaluations will factor in literacy interventions that have already been applied in Rwanda, and those from other countries around the world. The research in this paper concludes that in order to raise literacy achievement for primary aged students in Rwanda, stakeholders must consider the factors of language, community/home involvement, teacher professional development, and comprehensive incorporation of digitalization.

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<sup>6</sup> "UNICEF Global," chart.

<sup>7</sup> "Rwanda Systematic Country Diagnostic," World Bank, last modified June 25, 2019, <https://documents1.worldbank.org/curated/en/219651563298568286/pdf/Rwanda-Systematic-Country-Diagnostic.pdf>.

<sup>8</sup> "Rwanda Systematic," World Bank.

<sup>9</sup> "Rwanda Systematic," World Bank. Although students are predicted to complete 6.5 years of schooling prior to age 18, these 6.5 years of attendance translate to only 3.8 years of completed learning. In this way, it is proven that there is a learning gap of 2.7 years between school attendance and learning level in Rwanda.

<sup>10</sup> "Rwanda Systematic," World Bank. Literacy among Rwandans aged 15–24 years improved considerably until 2014, there has been no major improvement since.

<sup>11</sup> "Rwanda Early Grade Reading Assessment," USAID Rwanda, last modified 2020, [https://pdf.usaid.gov/pdf\\_docs/PA00X3C5.pdf](https://pdf.usaid.gov/pdf_docs/PA00X3C5.pdf).

## Language

Language is one of the most prevalent challenges that literacy development programs in Rwanda must focus on, especially given the complex history the country has had with their medium of instruction (MOI). The USAID Early Grade Reading Assessment report cites the “5 T’s” that impact one's ability to achieve early literacy skills in Rwanda.<sup>12</sup> The first T is "tongue" which refers to exposure to different languages that Rwandan children grow up with in home and school. Language concerns are especially relevant in multilingual contexts where local languages contain written scripts that are widely spoken, such as the case in Rwanda.<sup>13</sup> Rwanda's language situation is argued to be typical of East African countries for its multilingual society, multiple official languages, and medium of instruction that prioritizes international languages over local languages. However, Rwanda differs in the fact that it has a common native language, Kinyarwanda, that is spoken by almost all the population.<sup>14</sup>

Currently, in 2022, English is the educational Medium of Instruction (MOI) in Rwanda. However, English does not have a long history in the country. In fact, English was only introduced as a third language (in addition to Kinyarwanda and French) after the 1994 Genocide when Rwandan refugees returned from English-speaking nations. Rwanda has gone through multiple MOI switches in its history, initially switching to French from Kinyarwanda under the Belgian administration that widely implemented Western education in the 1930s. Upon Rwanda's independence in 1962, the MOI remained French in all grades except primary grades 1 through 3 which switched to Kinyarwanda. Then in 1996, post-genocide, English was added in with French as the secondary level MOI. Then a 2008 Cabinet Resolution ruled that the MOI should be changed to English for all primary and secondary schooling.<sup>15</sup> Facing pushback for this decision and its implications, the MOI was changed back to Kinyarwanda for grades 1-3 in 2011. However, now as of 2019, it is back to English.

The reasons for Rwanda's MOI shift to English are widely considered to be both economic and political. Economically, Rwanda's Ministry of Education has argued that English is the language most relevant in the global economy.<sup>16</sup> A report compiled by Euromonitor International for the British Council shows that individuals in Rwanda who can speak English earn salaries that are on average 25-30% higher than those of non-English speakers.<sup>17</sup> In this way, the switch to English aligns with Rwanda's explicit focus on using education to improve economic success. Furthermore, with the aim of stability and unification, Rwanda joined the East African Community (EAC) in 2007. As most countries in the EAC are considered to be Anglophone, the need for linguistic unification explains Rwanda's incorporation of more English language into their schooling. Politically, Rwanda's switch to English also symbolized joining with the British

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<sup>12</sup> Rwanda Early," USAID Rwanda.

<sup>13</sup> Benavot, "Literacy in the 21st."

<sup>14</sup> Pamela Pearson, "Language Policy in Rwanda: Shifting Linguistic and Educational Landscape," Georgia State University, last modified 2016, [https://scholarworks.gsu.edu/cgi/viewcontent.cgi?article=1039&context=alesl\\_diss](https://scholarworks.gsu.edu/cgi/viewcontent.cgi?article=1039&context=alesl_diss).

<sup>15</sup> Pearson, "Language Policy," Georgia State University.

<sup>16</sup> Celia Reddick, "Alternatives to Current Medium of Instruction Policy in Rwandan Primary Schools," Harvard Graduate School of Education, file:///Reddick\_Celia\_Track1\_Paper3\_For%20Jan%202024%20conference.pdf.

<sup>17</sup> Robert Pinon and Jon Haydon, eds., "English Language Quantitative Indicators: Cameroon, Nigeria, Rwanda, Bangladesh and Pakistan," Euromonitor International, last modified December 2010, <https://www.teachingenglish.org.uk/sites/teacheng/files/Euromonitor%20Report%20A4.pdf>.

Commonwealth and moving away from la Francophonie. After the fallout from Rwanda's 1994 Genocide, the Rwandan government was anxious to move away from French ties as France is said to have provided weapons and training to the perpetrators of the conflict.<sup>18</sup> Britain and the United States are some of Rwanda's largest donors, and so the switch to English aligns with the strengthening of those political ties as well.

Despite the logical reasons for the implementation of English in Rwanda's primary schooling, the switch to learning in a second language has had consequences on student success. First, less than half of teachers in Rwanda are at the "intermediate level" in the language of instruction, English.<sup>19</sup> Teachers being ill-equipped to teach in English negatively affects student performance. Without a command of the language, effective instruction is very difficult. A factor that causes further alarm is that many students are unable to learn subject matter in school because of their lack of familiarity with English. A 2018 evaluation of the English abilities of third graders in Rwanda found only 16 percent of them to be proficient.<sup>20</sup> Students struggle to engage in lessons, learn material, and read when they have limited comprehension and ability to speak in English.

In addition, the English MOI is enforced differently across schools in Rwanda. A study by Dr. Pamela Pearson demonstrates that, in reality, schools across Rwanda instruct in English to varying degrees in their classrooms, with some teachers even discouraging the use of English acquisition.<sup>21</sup> With this varied implementation, the issue of inequality arises. Wealthier school environments, mostly in larger cities, can afford to hire and train teachers to be more proficient in English. In this way, those students will receive higher quality English instruction and have a greater chance at success, both in school and the world. Conversely, students in less fortunate school environments (likely in rural areas) receive low quality English instruction, if any at all, which places them at a large disadvantage. This shows that the current MOI implementation favors wealthier schools in terms of students' ability to learn, thus increasing education inequality in Rwanda and putting rural students at a further disadvantage.

Two interventions that Rwanda has implemented to address the switch to English MOI over the years are the Rwanda English in Action Programme (REAP), and the initiative Supporting Teachers' English proficiency through Mentoring (STEM). These programs were implemented by the Rwandan Ministry of Education in partnership with the British Council and the non-governmental organization, Inspire, Educate and Empower (IEE). REAP was put in place in 2009 when the policy switch to English MOI had solidified in many schools, and lasted until 2011.<sup>22</sup> The program consisted of a two-week national conference at the end of each year for teachers from all over the country. The conferences provided training in English and language instruction pedagogy. REAP also adopted a sector-based strategy for more local district implementation, using school-based mentors and self-study materials to create a more affordable

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<sup>18</sup> Pearson, "Language Policy," Georgia State University.

<sup>19</sup> Rwanda Systematic," World Bank.

<sup>20</sup> Timothy P. Williams, "Why Did Rwanda Abruptly Change the Language in Schools—Again?," World Politics Review, last modified February 2022, <https://www.worldpoliticsreview.com/articles/29440/in-rwanda-language-change-in-schools-leaves-students-and-teachers-struggling>.

<sup>21</sup> Pearson, "Language Policy," Georgia State University.

<sup>22</sup> "Rwanda English in Action Project," Inspire, Educate and Empower Rwanda, <https://www.iee.rw/rwanda-english-in-action-project/>.

and accessible program. The program specifically emphasized the most effective ways of teaching second language communicatively, language-supportive subject teaching, production of school-based mentors, creation of teacher training resource centers, and the addition of enriched literacy resources in schools. These areas of focus worked to provide the necessary materials and instruction that teachers in all provinces of Rwanda could use to improve their English skills, and the English skills of their students. REAP accomplished foundation-level English language training for 41,000 teachers, training of 60 national English trainers, and 250 school-based mentors.<sup>23</sup>

The Rwanda English in Action Programme was effective in providing initial support in the transition to English language in classrooms across Rwanda; however, the program was changed to a more sustainable and effective one with an increased sector-based model called STEM. STEM was implemented from 2013 to 2015 in 36 primary schools across Rwanda, with the goal of making English and language methodology training more effective and comprehensive. The new program provided teachers with more accessible self-study materials relating to the use of English in the classroom setting and increased the support systems. For the delivery of self-study materials the program utilized phones with accompanying audio materials. The program increased the prevalence of well-trained school-based mentors, established peer-study groups, and created monitoring teams; all of which made sure teachers in the program were receiving enough support to see benefits.<sup>24</sup> STEM's innovative and effective program earned Rwanda the prestigious Commonwealth Education Good Practice Award in 2015.<sup>25</sup>

Ideally, students should be placed in the center of all policy changes relating to languages. For this reason, the decision to enforce English as the MOI continues to be controversial as it seems to be putting students who have grown up speaking and listening to Kinyarwanda at a disadvantage. However, as the switch to English has already taken place and the Ministry of Education's wishes to prioritize integration into the global economy must be respected, Rwanda must prioritize enforcing its MOI equally across the nation and providing the tools for students and teachers to gain proficiency in English.

In terms of equally enforcing MOI, I recommend that the Rwandan government and Ministry of Education implement a minimal requirement on exposure to English in classrooms for each grade. The use of Kinyarwanda to clarify certain concepts can be useful. However, teachers must also be obligated to implement English in the classroom for the sake of providing students with equal opportunity to learn the language. For example, teachers of primary 2 must instruct in English for 70% of the school day. In this way, English implementation will be consistent across schools and hence reduce educational inequality.

In terms of an intervention strategy to provide increased proficiency in English for teachers, I recommend building upon what works. Both REAP and STEM proved to be accessible and

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<sup>23</sup> John Simpson and Emmanuel Muvunyi, "Teacher Training in Rwanda and the Shift to English-Medium Education," Commonwealth Education Partnerships, last modified 2013,  
<https://www.cedol.org/wp-content/uploads/2013/09/Teacher-training-in-Rwanda-Simpson-and-Muvunyi.pdf>.

<sup>24</sup> "Supporting Teachers' English through Mentoring," Inspire, Educate and Empower Rwanda,  
<https://www.iee.rw/support-teachers-english-through-mentoring/>.

<sup>25</sup> Bayley McComb, "Education in Rwanda: Adieu Français, Hello English," The Borgen Project, last modified October 2016, <https://borgenproject.org/education-in-rwanda-hello-english/>.

effective intervention programs. There is promise in the use of video-based programs with support systems. I recommend that teachers be required to complete a video course on the use of English skills in the classroom prior to entering the field, and a video lesson every year to brush up on language skills. This video course must be accompanied by national monitoring teams, district mentors, and local peer groups to ensure teachers receive sufficient support. In terms of interventions that promote higher quality English skills for students, I recommend the addition of a nationwide English-learning curriculum for primary students, as well as more exposure for pre-primary children to the language.

Overall, the endeavor of switching the language of instruction to English has provided, and continues to provide, Rwanda with a large challenge. Teachers and students alike were not prepared for this language pivot, and it has had negative impacts for early learning outcomes. However, Rwanda's government (in partnership with other organizations) has created intervention strategies to mitigate the challenges. Now, what is needed is to make these interventions more comprehensive.

## **Home Environment and Community Culture**

Another vital aspect that has proven to be important in literacy development is community values and engagement, especially as it relates to the home environment. Research shows that a rich home literacy environment not only kickstarts a child's initial interest in reading but also is a milestone to later reading and educational success.<sup>26</sup> Home literacy practices encompass a wide variety of activities (including access to reading materials, reading aloud, parent-child interactions, etc.) that boost student interaction with oral fluency skills in any way.

Pierre Ruterana, a Swedish university student who specializes in literature promotion in East Africa, conducted a study and wrote an article that speaks to the inclusion of home literacy practices in Rwanda, and the need for an improved culture of literacy promotion in Rwanda.<sup>27</sup> In one section, he evaluates this literacy promotion in the home environment with the aim to understand how Rwandan families develop early literacy skills in the home. Ruterana's study included surveying families in Rwanda with nursery or primary-aged students on how they cultivated early literacy habits in their children. The study concluded that parents were often not fully aware of their important role in early literacy development, thus limiting the amount of learning happening outside of the classroom environment. This finding was especially relevant for families in rural settings. Ruterana also conducted interviews with teachers at the nursery and primary level who generally expressed that there was a need for more parent involvement in boosting the level of initial literacy skills that students have upon entering formal schooling. Overall, this knowledge clarifies the importance of early literacy development in home environments and prompts the search for ways to better inform Rwandan parents of their vital role in setting up their children for educational success.

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<sup>26</sup> Sonali Nag et al., "Home Language, School Language and Children's Literacy Attainments," British Educational Research Association, last modified November 2018, <https://bera-journals.onlinelibrary.wiley.com/doi/full/10.1002/rev3.3130>.

<sup>27</sup> Pierre Canisius Ruterana, "The Making of a Reading Society: Developing a Culture of Reading in Rwanda," Linköping University, Department of Behavioural Sciences and Learning, last modified 2012, <http://liu.diva-portal.org/smash/get/diva2:549886/FULLTEXT01.pdf>.

Further, Save the Children teamed up with the Stanford Graduate School of Education and the Rwanda Education Board to conduct a randomized control trial that measures the impact of their Literacy Boost program in Rwanda.<sup>28</sup> Literacy Boost aims to go against the norm of school-only learning by incorporating more of a life-wide learning model through not only enhancing school experiences but also implementing wider community activities to help children build a broader, stronger, and more sustainable foundation for learning. To evaluate these two factors, the trial measures the impact of teacher training (school-focused) and the impact of community literacy activities (out of school-focused). The trial found that children in the Literacy Boost test group — those who received both teacher training and community activities — yielded the largest positive observable impact on reading assessments, over students in the control group who received teacher training only. The Literacy Boost group also experienced improved home environments conducive to learning results, especially in the three following "Literacy Ecology Factors:" reading habits and interactions, reading materials, and child interest/engagement. However, the case studies also revealed that there were some home environments capable of negating any positive effects of the Literacy Boost program, proving the immense impact that out-of-school environments have on children's educational results. Overall, this study demonstrates that more active community and child engagement in literacy-related activities outside the school environment are critical in helping children learn and progress through school in Rwanda. The research challenges conventional literacy curricula and interventions to extend their implementations out of the school and into the greater community environment.

If the aim is to create home environments more conducive to literacy in Rwanda, then I recommend providing parents with the tools to promote early literacy. Dost, a nonprofit organization in India, exemplifies the possibility of delivering educational tools to households by providing activities regarding early childhood development to parents of all literacy levels through mobile phone audio messages.<sup>29</sup> Providing parents with the information on how to promote literacy skills in early childhood has a correlation with children's future success in school.<sup>30</sup> Should Dost's same method be applied in Rwanda, there would be an uptake in youth exposure to literacy skills and implementation of learning in the home environment.

In terms of community practice, promoting the creation of more libraries in Rwandan towns, especially in areas that are exceptionally isolated from other sources of literature materials, will benefit learners. The USAID's 5 T's that impact early literacy skills in Rwanda includes "text." Text refers to access to supplementary books outside of school which was shown in the report to significantly improve grade 1 students' scores in the ORF and reading comprehension benchmarks.<sup>31</sup> For this reason, emphasizing the presence of reading materials outside of the school environment is crucial. Supporting this proposition, Room to Read is a nonprofit organization that operates across Asia and Africa.<sup>32</sup> A large part of Room to Read's mission is

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<sup>28</sup> Elliott Friedlander and Claude Goldenberg, eds., "Literacy Boost in Rwanda: Impact Evaluation of a Two Year Randomized Control Trial," Stanford Graduate School of Education, last modified 2016, <https://www.savethechildren.org/content/dam/usa/reports/ed-cp/rwanda-2-year-impact-evaluation.pdf>.

<sup>29</sup> Dost Education, <https://www.dosteducation.com/>.

<sup>30</sup> Monique Sénéchal, Josée Whissell, and Ashley Blidfell, "Starting from Home: Home Literacy Practices That Make a Difference," John Benjamins Publishing Company, last modified August 2017, <https://doi.org/10.1075/swll.15.22sen>.

<sup>31</sup> "Rwanda Early," USAID Rwanda.

<sup>32</sup> Room to Read, <https://www.roomtoread.org/>.

creating libraries with quality reading materials. The organization emphasizes the importance of not only giving students the skills to read, but also the ability to love reading. Providing interesting reading materials and helping young students become immersed in a culture of reading fosters an environment for improved literacy skills. Further, by encouraging a passion for learning, this culture promoted by Room to Read serves to mitigate one of the greatest challenges to educational development - high dropout rates. Similarly, Drakkar Ltd., a bookseller and education business in Rwanda, was awarded in USAID's All Children Reading Grand Challenge for its breakthrough "Improving Reading and Writing Capacity in Primary Grades" program.<sup>33</sup> The program provided 60,000 storybooks in Kinyarwanda to over 300 primary schools to support the building of literacy skills in the native language.

Efforts like these to increase exposure to literature materials, in both native language and medium of instruction, are crucial in providing a rich learning environment outside of the classroom. I recommend that Rwanda prioritize the inclusion of libraries in every town to continue building an improved culture of literacy.

Overall, in order to achieve the goal of improving early literacy in Rwanda it is necessary to focus on the development of an improved culture of literacy outside of the classroom.

## **Teacher Professional Development**

Teacher professional development is another vital aspect of Rwanda's education program that is in need of progress. One of the main barriers to increasing reading achievement of students in Rwanda is the lack of high quality instruction. The USAID's 5 T's include "teaching techniques" which encourage having a continuous professional development (CPD) plan in place for teachers, providing help in pedagogical meetings, and delivering teacher feedback after conducting classroom observations. These implementations are all shown to have a significant impact on students' ORF benchmarks.<sup>34</sup>

In Rwanda, the Literacy, Language, and Learning (L3) Initiative was implemented from the year 2011 to 2017.<sup>35</sup> This project was funded by USAID, but included collaborators such as the Ministry of Education and other technical partners. The program focused on improved quality of teaching. The objective of L3 was to strengthen teacher training and learning in order to increase the number of primary students who would achieve solid literacy (and numeracy) skills. Firstly, the project supported the Rwanda Education Board's National School-based Mentoring Program (SBMP) by creating a cascade method that trained senior mentors in how to use videos to train other teachers. This method was meant to ensure longevity and long-term sustainability of the program, as training can be passed on. Further, L3 developed Interactive Audio Instruction (IAI) which provides teacher instructions and student lessons over radio in both topics of basic literacy and English skills. This auditory intervention was found to help especially with providing a role

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<sup>33</sup> Albert Nzamukwereka, "Rwanda's Drakkar Ltd. Wins USAID'S Global 'All Children Reading' Awards," IGIHE Network, last modified September 2012, <https://en.igihe.com/news/rwanda-s-drakkar-ltd-wins-usaid-s-global-all.html>.

<sup>34</sup> "Rwanda Early," USAID Rwanda.

<sup>35</sup> "Building a Strong Foundation for Literacy in Rwanda: Results and Lessons Learned from the L3 Initiative," EDC Early Grade Reading Program, last modified April 2017, <https://main.edc.org/sites/default/files/uploads/L3-Rwanda-Executive-Summary.pdf>.

model in correct reading pronunciation for both teachers and students. L3 also facilitated the creation of Rwanda English Proficiency Standards (REPS) that provided diagnostic tests which allowed for self-assessment and the creation of achievable goals regarding English skills for teachers. This incorporation of self-assessment is very useful in the way that it allows for monitoring of progress and areas for improvement. Lastly, the formation of Teacher Resource Centers (TRC's) located in Teacher Training Colleges allowed teachers in the vicinity to have a location for resources and support in their professional development. L3's work in teacher training shows that audio and video-based resources for teachers are an effective and affordable way to provide training and model best practices.

A similar initiative, Inspiring Teachers, works throughout Africa to help the many teachers who lack access to the support they need to succeed in their classrooms.<sup>36</sup> Specifically, Inspire Teachers delivers effective and efficient teacher professional development through the use of a mobile phone application, where teachers can watch videos of trained master teachers modeling teaching techniques mapped to the national content standards. The program's peer coaching method equips teachers with skills, tools, and support they need to give each other high quality coaching. This method of peer mentoring is notable for its scalability, as it allows for a sector-based approach where training can take place in the school. In addition, peer coaching addresses the problem of coach to teacher ratios which in low-resource contexts often exceed 1:200. In the peer coaching model, the coach to teacher ratio is 1:1 which makes sure no teacher feels neglected. The actual training workshops emphasize practicing techniques that can be used to tackle specific classroom challenges. Working in pairs, teachers observe each other in the classroom and provide targeted feedback. In Rwanda, Inspiring Teachers has partnered with Rwanda Action and Children Might Foundation (CMF) to provide programs for 510 teachers, impacting the education of 15,000 children.

If the aim is to improve the quality of teaching, then implementing a nation-wide method for delivering easily accessible and effective teacher training is the best solution. Research shows that a system for peer coaching is a good way to achieve this. In addition, the use of audio and video based resources with local centers for teacher support is promising. Making these professional development methods more widespread throughout Rwanda should be a priority for the Ministry of Education.

## **Comprehensive Digitalization**

In the 21st century where technology skills are prioritized heavily and have the ability to improve learning outcomes, Rwanda must comprehensively incorporate digital resources into their classrooms. The Rwandan government's Education Sector Strategic Plan (ESSP) believes the incorporation of information and communications technology (ICT) in education to be crucial in reaching their learning and socio-economic goals.<sup>37</sup>

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<sup>36</sup> Inspiring Teachers, <https://inspiringteachers.org/>.

<sup>37</sup> Andrew Zeitlin and Jonathan Bower, "Harnessing the Potential of ICT for Education in Rwanda," International Growth Centre, last modified June 2018, [https://www.theigc.org/wp-content/uploads/2019/01/Zeitlin-Bower-2018-Policy-brief\\_ICT.pdf](https://www.theigc.org/wp-content/uploads/2019/01/Zeitlin-Bower-2018-Policy-brief_ICT.pdf).

The main challenges that Rwanda faces in their incorporation of ICT into education are scalability and relevance. Scalability refers to the ability to make the intervention widespread and accessible to a large group of people. Because of high cost elements, the lack of basic infrastructure, and teachers' lack of technology skills, technology solutions struggle to make an impact. Data from 2016 showed that only 32% of primary schools in Rwanda were connected to the electrical grid.<sup>38</sup> Further, 2016 data reveals that only 17,791 teachers have been trained on basic ICT skills, representing approximately 26 percent of all primary and secondary teachers in Rwanda.<sup>39</sup> Digitalization also often struggles to make an impact as the content is not relevant to the national curriculum. For example, many technology interventions can be implemented on a certain scale, but are not equipped with the right content to help students improve their learning and literacy skills.

These themes have been seen in many of Rwanda's ICT interventions to date. For example, the ESSP implemented in their 2005 plan a notable investment in the One Laptop Per Child (OLPC) initiative, where they aimed to provide a lower-cost laptop for every primary and secondary student in Rwanda. The program aimed to increase the exposure students had to technology, and help them gain access to knowledge. Although OLPC did contribute to the enhancement of familiarity with technology skills for many students, the Rwandan government has acknowledged that the laptop hardware was not effective in improving learning outcomes.<sup>40</sup> In terms of relevance, OLPC lacked the necessary integration into curriculum as the software programs that went along with the laptops were not helpful in student's learning. The software programs did not consider local cultural elements, nor how students would react. Furthermore, the scalability of the program was limited as OLPC did not prepare teachers with the necessary skills to use the technology in classrooms, nor the schools with the necessary basic infrastructure.

The ESSP's plan from 2016 aimed to further the One Laptop Per Child policy by creating "smart classrooms" equipped with more technology such as projectors, more digitized content, and internet connectivity. In addition, the plan addresses the need for teacher training in the technology field. The "smart classroom" initiative faced some of the same challenges as the One Laptop Per Child policy in not providing comprehensive support for the effective use of this technology in improving learning outcomes.<sup>41</sup>

The International Growth Centre addresses the topic of how the Rwandan education system can optimally and equitably enhance learning outcomes with ICT.<sup>42</sup> Despite the continued challenges Rwanda faces in their incorporation of ICT, there are general improvements that technology is capable of providing for Rwanda: matching student levels, and providing better quality lessons. NGOs around the world such as Pratham and Mindspark in India demonstrate the effectiveness of matching the skill level of students. Due to this, the International Growth Centre recommends that the Rwandan government look into adaptive learning software programs that could act in a similar manner. Further, the article speaks to the delivery of scripted lesson plans which USAID claims to be effective in providing clear and concise directions, teacher guidance, active student

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<sup>38</sup> Zeitlin and Bower, "Harnessing the Potential," International Growth Centre.

<sup>39</sup> Jean Pierre Mugiraneza, "Digitalization in Teaching and Education in Rwanda," International Labour Organization, last modified 2021, [https://www.ilo.org/wcmsp5/groups/public/---ed\\_dialogue/---sector/documents/publication/wcms\\_783668.pdf](https://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---sector/documents/publication/wcms_783668.pdf).

<sup>40</sup> Zeitlin and Bower, "Harnessing the Potential," International Growth Centre.

<sup>41</sup> Zeitlin and Bower, "Harnessing the Potential," International Growth Centre.

<sup>42</sup> Zeitlin and Bower, "Harnessing the Potential," International Growth Centre.

participation, and support of student learning at all levels. However, the article states that incorporation of ICT must not increase inequality in Rwanda's education system by ignoring school's without the basic infrastructure to accommodate the new technology integrations.

Adding on to the encouragement for inclusive advances, a report by the International Labour Organization speaks to the importance of increasing the comprehensiveness of digitization efforts in Rwanda.<sup>43</sup> In this way, more teachers and students can take advantage of technological tools. One example the report highlights is the Teacher Management Information System (TMIS) that has been established in Rwanda with the intent of creating a database of teacher information. However, many teachers are unable to access the TMIS due to lack of basic infrastructure, such as internet access, or training in how to navigate the site. In this way, the report proves that without the proper focus on providing infrastructure and technological skills, the education system in Rwanda is unable to take advantage of an important tool. Many teachers have reported that there has been a focus on distributing ICT devices, but a lack of instruction or teaching of the necessary skills to utilize the devices. The report argues that the Rwandan government must focus on delivering greater professional development opportunities for teachers focused on learning technology skills.

Future technology interventions in Rwanda must consider ways to provide necessary infrastructure and teacher technology training, as well as making sure their software programs are relevant to the students' needs. Were these criteria to be met and prioritized, learning outcomes would be improved by ed tech innovations.

## Conclusion

In conclusion, Rwanda faces a series of unique challenges in their journey to reach improved early literacy rates. The factors of language, community and home environment, teacher professional development, and comprehensive digitalization must be addressed in educational development programs in Rwanda to create effective growth in early literacy rates. While Rwanda certainly faces unique challenges, these strategies have been proven effective in many contexts around the world and will undoubtedly help advance early literacy for Rwandan primary students.

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