

Impact - evaluation study of a school leadership development programme in Rwanda

Final Report, October 2025

Dong Nguyen^a, Beng Huat See^b, Hoa Do^c, and Jocelyne Cyiza Kirezi^d

a. School of Education, Durham University, UK.

b. School of Education, University of Birmingham, UK.

c. School of Management, University of Leicester, UK.

d. VVOB – *education for development*, Rwanda.

Acknowledgements

Published by:

© 2024 VVOB – education for development
Julien Dillensplein 1 bus 2A, 1060 Brussels, Belgium
Telephone: +32 2 209 07 99; Website: www.vvob.org

Some rights reserved.

This work is a product of the staff of Durham University, VVOB, University of Birmingham and University of Leicester. The findings, interpretations, and conclusions expressed in this work do not necessarily reflect the views of VVOB, its Board of Directors, or the funding donors. VVOB does not guarantee the accuracy of the data included in this work. The boundaries, colours, denominations, and other information shown on any map in this work do not imply any judgment on the part of VVOB concerning the legal status of any territory or the endorsement or acceptance of such boundaries.

Rights and Permissions

Responsible Editor:
Sven Rooms
© 2024 VVOB - education for development



This work is available under the Creative Commons Attribution-Non-Commercial Share-alike 4.0 International license (CC BY-NC-SA 4.0). Under the Creative Commons Attribution license, you are free to copy, distribute, transmit, and adapt this work, only for non-commercial purposes, under the following conditions:

Attribution—Please cite the work as follows: Nguyen, D., See, B. H., Do, H., & Kirezi, J.C. (2025). *“Impact-evaluation study of a school leadership development programme in Rwanda”*. Endline Report. VVOB – education for development.

License: Creative Commons Attribution-Non-commercial Share-alike 4.0 International license (CC BY-NC-SA 4.0)

Translations—If you create a translation of this work, please add the following disclaimer along with the attribution:

This translation was not created by VVOB and should not be considered an official VVOB translation. VVOB shall not be liable for any content or error in this translation.

Adaptations—If you create an adaptation of this work, please add the following disclaimer along with the attribution:

This is an adaptation of an original work by VVOB. Views and opinions expressed in the adaptation are the sole responsibility of the author or authors of the adaptation and are not endorsed by VVOB.

Distribution— Licensees may distribute derivative works only under a license identical to the license that governs the original work.

Third-party content—VVOB does not necessarily own each component of the content contained within the work. VVOB therefore does not warrant that the use of any third party-owned individual component or part contained in the work will not infringe on the rights of those third parties. The risk of claims resulting from such infringement rests solely with you. If you wish to re-use a component of the work, it is your responsibility to determine whether permission is needed for that re-use and to obtain permission from the copyright owner. Examples of components can include, but are not limited to, tables, figures, or images.

All queries on rights and licenses should be addressed to VVOB, Julien Dillensplein 1 bus 2A, 1060 Brussels, Belgium - Telephone: +32 2 209 07 99; E-mail: info@vvob.org; Website: www.vvob.org

Disclaimer

This publication contains references to other publications and websites. VVOB cannot be held responsible for current or future content of these publications and websites, nor for the content of external publications and websites that refer to this publication of VVOB.

This publication was produced with the financial support of the Governments of Belgium and Flanders. Its contents are the sole responsibility of VVOB and do not necessarily reflect the views of these actors.

The Governments of Belgium and Flanders cannot be held responsible for the content of this publication.

(Co-)funded by:



Belgium
partner in development



Flanders
State of the art

Table of Contents

List of abbreviations	5
Executive Summary	6
1. Introduction	8
2. Reviewing the literature on impacts of leadership and leadership development	9
2.1. Impacts of school leadership.....	9
2.2. Professional development for school leaders – potential impacts and characteristics	12
3. A snapshot of the Rwanda education sector.....	14
4. The Diploma in Effective School Leadership programme	16
5. Theory of change	22
6. Methods and data	23
6.1. Instrumentation	23
6.2. Process of data collection	26
6.3. Analytical approaches	28
7. Overview of the samples.....	31
7.1. Demographics of school sample	31
7.2. Demographics of head teacher sample	32
7.3. Demographics of teacher sample	33
7.4. Demographics of student sample	35
8. Discussion of findings and recommendations.....	44
8.1. Strengths and limitations	44
8.2. Recommendations	45
9. References	50
10. Appendixes	54
10.1. Appendix 1: An example of structured guidance on delivering one activity in Module 1.	54
10.2. Appendix 2: An example of assessment types in Module 1.	55
10.3. Appendix 3: Comparing gains in the S&L outcomes between IG and CG before and after the intervention.....	55

Table of figures and tables

Figure 1: Pathways of school leadership impact	10
Figure 2: Number of school leaders having completed the DESL 2016 – 2025.....	17
Figure 3: Blended learning modality utilised in the DESL programme.	17
Figure 4: Theory of change informing the current study.....	22
Figure 5: A map of the location of districts where schools in this study are situated.....	27
Figure 6: Number of schools per school type	31
Figure 7: School location per group	31
Figure 8: Headteachers' years of overall professional experience.....	32
Figure 9: Head teachers' years of working in the current schools	32
Figure 10: Head teachers' sex	33
Figure 11: Head teachers' educational qualifications.....	33
Figure 12: Teachers' sex.....	34
Figure 13: Teachers' years of teaching experience.....	34
Figure 14: Teachers' educational qualifications.....	34
Figure 15: Effect size of S&L outcomes.	37
Table 1: DESL programme module structure and content	18
Table 2: Districts and school types of IG and CG schools.	27
Table 3: Comparing gains in Indicator 1 between IG and CG.	29
Table 4: Comparing gains in the composite S&L outcome between IG and CG before and after the intervention.	36
Table 5: Comparing gains in the composite S&L outcome between PASS and FAIL groups based on DESL results.	38
Table 6: Comparing gains in the composite S&L outcome between “single participation” and “team participation”.	39
Table 7: Model summary predicting the composite S&L outcome after the intervention.	40
Table 8: Regression model predicting the composite S&L outcome.	40
Table 9: Comparing teacher and teaching outcomes between IG and CG before and after the intervention.	41
Table 10: Comparing students’ sense of happiness between IG and CG before and after the intervention.	43

List of abbreviations

CG	Control Group
CPD	Continuous Professional Development
DESL	Diploma in Effective School Leadership programme
DHT	Deputy Headteachers
ESSP	Education Sector Strategic Plan
HT	Head teachers
IG	Intervention Group
LEAD	Learning through Assessment and Data
REB	Rwanda Basic Education Board
MINEDUC	Ministry of Education
NESA	National Examination and School Inspection Authority
SIP	School Improvement Plan
S&LA	School & Leadership Assessment
UR-CE	University of Rwanda College of Education

Executive Summary

Leadership plays a critical role in securing the equity and excellence in schools. School leaders shape teaching and learning through multiple pathways, including developing school vision and culture, improving instructional programmes, supporting teacher professional development and well-being, and building family-school partnerships. These pathways suggest the complex roles and competing demands for school leaders.

Quality professional development is essential to equip leaders with competences to navigate these demands effectively. Structured leadership development programmes, when rigorously designed, effectively delivered, and continuously improved, alongside a range of contextual factors, have the potential to strengthen leadership practices and catalyse school improvement. Developmental evaluation is key to refining these programmes and maximising their impact.

This report presents findings from an impact evaluation of a **Diploma in Effective School Leadership (DESL)** programme in Rwanda—a one-year structured leadership development course for school leaders. The study employed a **quasi-experimental pre-post design**, comparing 147 schools whose school leaders participated in the DESL programme (Intervention Group) with 149 schools whose leaders did not (Comparison Group). To measure possible changes in *leadership and school practices and processes, teacher and teaching outcomes, and students' sense of well-being*. Data were collected at two time points—pre- and post-intervention—using interviews with school leaders, teachers, students, and parents; surveys with teachers and Grade 6 students; and school documentation on policies and teaching practices.

Key findings

- **Positive Impact on Leadership Practices and School Improvement.**

Participation in the DESL programme significantly enhanced head teachers' leadership practices and their ability to develop plans for school improvement. Schools led by DESL participants made measurable progress in aligning with Rwanda's professional standards for Effective School Leadership. Notably, the strongest gains were observed in:

- Developing school vision and values
- Providing instructional support to teachers
- Financial management
- Building partnerships with parents and the community

The area with the least improvement was managing change, indicating a potential focus for future programme enhancements.

- **Stronger outcomes for successful completers.**

Schools whose leaders successfully completed the programme on the first attempt showed slightly higher gains across leadership indicators, demonstrating the value of full programme engagement.

- **Limited impact on teacher and student outcomes in Year 1.**

No clear changes were observed in specific teacher, teaching, or student outcomes within the first 12 months. This may reflect the early stage of implementing school improvements, during which adoption and adaptation by teachers and students are still developing.

Key recommendations

1. **Providing follow-up support through *ongoing communities of practice* and *sustained coaching*.**

To maximize long-term impact, ongoing support through communities of practice and sustained coaching is critical. Continued guidance can help school leaders implement innovative changes introduced during the DESL programme, translating leadership improvements into measurable gains in teaching and learning.

2. **Strengthen support for managing change.**

The lowest-rated indicator—managing change—requires targeted coaching. School leaders, particularly those in resource-constrained rural schools, would benefit from contextually tailored strategies to implement innovations effectively, even with limited resources.

3. **Support programme participants who did not pass the programme.**

Approximately 39% of participants did not successfully complete the programme. Structured follow-up, including re-engagement with failed modules and targeted support, could enhance completion rates and overall impact.

4. **Incentivising participation through time and financial support.**

Balancing the DESL programme with full-time school leadership duties proved challenging. It is important to consider ethical ways to protect time for continuous professional development for school leaders within their core workload. Equally importantly, financial support for recruited participants is necessary if/once successful completion of an accredited CPD programme is made a compulsory requirement to be qualified head teachers in Rwanda.

5. **Track longer-term impacts of structured leadership development on leadership, teaching and learning outcomes.**

While early leadership gains are evident, further evaluation over two to three years is needed to determine sustained effects on teacher and student outcomes. Longer-term monitoring will provide stronger evidence of the programme's impact on learning in schools.

1. Introduction

School leadership is a critical factor influencing teaching and learning outcomes in schools (Grissom et al., 2021; Leithwood et al., 2020). Supporting aspiring and in-service school leaders' professional development is central in securing quality of leadership. High quality professional development (PD) programmes play an important part in school leadership development that may have links with positive changes in leadership, teaching and learning outcomes (Darling-Hammond et al., 2022). These potential links need to be robustly evidenced, contextualised, and clarified. To investigate these links in a specific context, the current study was designed to measure potential impacts of a leadership development programme for school leaders in Rwanda on their leadership practices, and their schools' teaching and learning outcomes.

The Diploma in Effective School Leadership programme (DESL) is one of the relatively structured flagship programmes in Rwanda. The DESL is designed specifically for school leaders in primary and secondary schools. This study measured possible impacts of this programme for a dual purpose. Firstly, the developmental evaluation would inform any necessary adjustments and improvements of this continuous professional development (CPD) programme and/or future similar programmes/courses. In particular, this evaluation is timely, given that successful completion of a leadership preparation and development programme is now a compulsory requirement for school leaders (Government of Rwanda, 2024). Secondly, the study aimed to generate robust evidence to enhance and diversify the international knowledge base on school leadership development. While leadership and leadership development are sensitive to cultural and contextual factors (Hallinger, 2018a), the contributions from the Global South contexts, including African countries, continue to be under-represented in the current knowledge base on this topical area (see the review by (Hallinger, 2018b).

The current study employed a quasi-experimental pre-post design, incorporating two times/main rounds of data collection over around one year (February 2024- February 2025), followed by a pilot study. A total of 296 schools participated fully in the main study. Schools were divided into two groups – Intervention Group (IG) and Comparison Group (CG). The IG comprised schools with their school leaders to have started the DESL programme in early 2024. The school leaders in the

CG did not participate in the DESL programme or any other leadership programmes during the data collection period of this study. The data collection for both Intervention Group (IG) and Comparison Group (CG) occurred concurrently or at closely aligned time points.

This study was conducted by a research team comprising UK-based academics and the staff from VVOB. It was supported by a team of trained enumerators to collect data. The trainers and other partners of the DESL and from the participating schools also provided ethical support in the process of data collection. The core team closely monitored the process of data collection to ensure transparency and trustworthiness of the data. The UK-based research team independently conducted data analysis, reported findings, and made recommendations.

The current report presents the research design, process of data collection and analysis, and findings and recommendations from this study. The next section provides a brief review on the literature on the effects of leadership and leadership development on teaching and learning outcomes.

2. Reviewing the literature on impacts of leadership and leadership development

2.1. Impacts of school leadership

Leadership plays a critical role in securing equity and excellence in their schools (Grissom et al., 2021; Leithwood et al., 2020). School leaders might influence teaching and learning outcomes through a range of mutually reinforcing pathways (see Figure 1).

Developing organisational vision, culture and structure. A range of research evidence suggests that leaders influence school outcomes through developing the organisational vision, culture and structure (Day et al., 2020; Grissom et al., 2021; Leithwood et al., 2020). The review of Leithwood et al. (2020) endorses building and communicating a shared vision as critical school leadership practices in strategically aligning human resources, initiatives, and strategies towards implementing and achieving shared goals of their schools. Alongside visioning, building a culture of collegiality and collaboration, a safe and productive climate, and an equitable structure of

workload and support distribution contributing to enhancing teacher, teaching, and learning outcomes (Day et al., 2020; Grissom et al., 2021; Nguyen et al., 2023, 2024).

Figure 1: Pathways of school leadership impact



Developing organisational vision, culture and structure. A range of research evidence suggests that leaders influence school outcomes through developing the organisational vision, culture and structure (Day et al., 2020; Grissom et al., 2021; Leithwood et al., 2020). The review of Leithwood et al. (2020) endorses building and communicating a shared vision as critical school leadership practices in strategically aligning human resources, initiatives, and strategies towards implementing and achieving shared goals of their schools. Alongside visioning, building a culture of collegiality and collaboration, a safe and productive climate, and an equitable structure of workload and support distribution contributing to enhancing teacher, teaching, and learning outcomes (Day et al., 2020; Grissom et al., 2021; Nguyen et al., 2023, 2024).

Improving instructional programmes. Working actively with teachers to improve the school's instructional programmes has been consistently considered as one of the core responsibilities for

school leaders (Hallinger, 2005; Leithwood et al., 2020). Managing an instructional programme involves allocating resources effectively and monitoring student learning (Leithwood et al., 2020). The review of empirical research by Grissom et al. (2021) emphasises the importance of school leaders' using and interpreting data to inform strategic improvements of instructional programmes.

Supporting teacher professional development, well-being, and retention. School leadership is central in supporting teacher professional development, and well-being and retention. The major review of Nguyen et al. (2023) developed an evidence base on the links between school leadership and teacher outcomes. This evidence base underscores three inter-related leadership categories of practices to promote teacher well-being and retention, namely prioritising teacher development, building relational trust, and improving working conditions. Nguyen et al. (2022) specified an association between (a) school leadership practices focussing on promoting teacher professional development and (b) teacher competencies in curriculum content, pedagogy, assessment, and knowledge on student learning. School leaders could promote teacher professional development through providing instructional support, for example, in the forms of observing classroom teaching and offering constructive feedback to teachers (Kim, 2019; Kraft et al., 2016) and working collaboratively with teachers to address instructional challenges (Liu et al., 2021). They could also create or source for teacher professional development opportunities (Barbieri et al., 2019; Cann et al., 2021). Luo et al. (2022) suggested that school leadership is likely to influence, both directly and indirectly, four teacher outcomes: *work engagement*, *engagement in professional learning*, *job satisfaction* and *intent to quit*. These outcomes are proximally related to teacher well-being (e.g., job satisfaction), and retention (e.g., intent to stay/quit).

Building family-school partnerships. School leadership influences teaching and learning through establishing and maintaining family-school partnerships (Leithwood et al., 2020). There is evidence suggesting the impact of family-school partnerships on student learning and development (Jeynes, 2007; Smith et al., 2020). The meta-analytical study by Smith et al. (2020) analysed a sample of 77 family-school partnership interventions to assess the effects of these interventions on students' academic and social-emotional competences. These family-school

partnerships included home-based involvement (i.e., parents assisting schoolwork) and two-way home-school communication. Their overall results highlighted some impacts of these interventions on students' academic outcomes, behaviours, social-behavioural competence and mental health. The two earlier meta-analyses by Jeynes (2005; 2007) showed positive associations between parental involvement and student academic achievement in urban primary schools (Jeynes, 2005) and urban secondary schools (Jeynes, 2007). However, parental engagement provides no guarantee of positive impacts on student outcomes. For example, Martinez-Yarza et al. (2024) found no direct, positive relationship between home-based involvement and students' social-emotional development – this relationship was however mediated by students' engagement in school activities. This implies the importance of school leadership in developing school policies, structures and practices of establishing effective family-school partnerships.

2.2. Professional development for school leaders – potential impacts and characteristics

A search of the literature suggests that the volume of formal, robust research studies evaluating impacts of professional development for school leaders is relatively sparse. An emerging evidence base of this investigation stream provides some initial insights into the potential impacts and characteristics of professional development for school leaders in securing teaching and learning quality.

Potential impacts. There is research evidence supporting the associations between school leaders' professional development and their leadership, teacher and student outcomes (Campoli et al., 2022; Donley et al., 2021; Jacob et al., 2015; Lauterbach et al., 2025). Participation in high-quality structured professional development occasions might enhance school leaders' sense of efficacy in their leadership (Jacob et al., 2015; Wang et al., 2019), collaborative ways of working with teachers (Howley et al., 2019) and retaining effective school leaders (Donley et al., 2021; U.S. Department of Education, 2020).

Furthermore, Campoli, et al. (2022) found a positive link between principals' access to high quality professional learning and development and teacher retention and student academic

learning in their schools. This finding was based on their study in California of the United States. In a Rwanda-based study, Lauterbach et al. (2025) found no clear evidence on the impact of school leaders' participation in a leadership development programme on students' academic results, but they did identify some evidence on enhancing teacher retention rates.

Characteristics of high-quality professional development for school leaders. The literature (Darling-Hammond et al., 2022; Sutchter et al., 2017) highlights some noteworthy programmatic characteristics of high-quality professional development. First, a professional development programme should have *strong links with professional standards* for school leaders (Darling-Hammond et al., 2007). Systems tend to have professional standards for school leaders at the district and/or country levels. An appropriate alignment between the content of the programme and contextualised professional standards promote relevance between school leaders' learning and requirements in the workplace. This is particularly important for induction leadership development programmes for novice school leaders.

Second, a high-quality programme includes strong elements of *individualised mentoring and coaching* (Darling-Hammond et al., 2022). The mentoring and coaching should provide support for school leaders' individualised needs in their workplace (Levin et al., 2020). The empirical study, by Grissom & Harrington (2010), found a positive association between principals' participation in formal mentoring programmes and teachers' rating of principal performance.

Furthermore, a high-quality professional development for school leaders promotes *collaborative learning and networking through communities of principals* (Darling-Hammond et al., 2022; Sutchter et al., 2017). These communities should provide a safe space for collaborative reflection to share good practice and address challenges associated with their leadership roles. Fourth, *applied learning* is central to a high-quality professional development programme (Darling-Hammond et al., 2022). Applied learning bridges theory and practice to manage real-world challenges in their work settings. It can be promoted through action research / practitioner enquiry projects that requires school leaders to collect and analyse data and use their contextual knowledge to interpret the data to inform their practices.

Another critical characteristic of a high-quality programme is its effective implementation of *focused content on managing data-driven change, building collegial and collaborative cultures and structures, and improving schoolwide instruction* (Levin et al., 2020) and *meeting the diverse needs of learners and staff* (Darling-Hammond et al., 2022).

3. A snapshot of the Rwanda education sector

The Republic of Rwanda is situated in the Great Rift Valley of Central Africa and has a population of around 13.2 million (National Institute of Statistics Rwanda, 2023). The country's school education is structured as a 6-3-3 system, comprising 6 years of primary education, 3 years of junior secondary education, and 3 years of senior secondary education. By the end of the sixth year, students sit for a mandatory examination called the Primary Leaving Examinations (PLE). The results of PLE determine their progression to junior secondary education. Since 2012, the Government of Rwanda has made primary (6 years) and junior and upper secondary (6 years) education compulsory and free. English is the language of instruction for schooling at all levels. The current school year starts from September to July in the following year. One school may provide one or multiple levels of education. They may offer only primary education, both primary and junior secondary education, or all primary, junior, and senior secondary education.

The Ministry of Education (MINEDUC) in Rwanda is centrally held responsible for overseeing the country's education sector. The MINEDUC is supported by the Rwanda Basic Education Board (REB), the National Examination and School Inspection Authority (NESA) and the Higher Education Council (HEC) to develop and implement national educational strategies and national programmes. Schools are locally managed and monitored by District Directors of Education (DDEs). According to the [Country Profile 2017-2018](#), there are 30 districts (*akarere*), 416 sectors (*imirenge*), 2,148 cells (*utugari*), and 14,837 villages (*imidugudu*) in Rwanda.

Rwanda has shown its commitment to transform the country's education system over the past decade. The numeric data from the MINEDUC has highlighted considerable progress in enhancing access to education at all levels and for all. This progress included strong indicators in universal primary education – e.g., achieving a Net Enrolment Rate (NER) of 94.3% ([MINEDUC, 2023](#)), an

increase in the quantity of schools ([MINEDUC, 2022](#)), and a greater investment in technological devices to support teaching and learning activities ([MINEDUC, 2022](#)).

While this noteworthy progress is encouraging, more strategic efforts and investments would be necessary in addressing the ongoing challenges. These challenges involve a need to enhance: the currently relatively-low rate of pre-primary education enrolment ([UNICEF, 2022](#)), quality of professional development for teachers and school leaders ([MINEDUC, 2018](#); [USAID, 2023](#)); government funding in education ([MINEDUC, 2018](#); [USAID, 2023](#)); and coordination between levels of governance and administration in the system ([MINEDUC, 2018](#); [USAID, 2023](#)).

Moving forward, the MINEDUC outlines 9 strategic objectives “to ensure Rwandan citizens have sufficient and appropriate competencies to drive the continued social and economic transformation of the country” ([MINEDUC, 2018](#), p. 16). These objectives suggest, of varying explicitness, the importance of:

- enhancing equitable access to quality education for all;
- improving school infrastructure, optimising technology to support learning and teaching;
- increasing the opportunities and quality of professional development for educators; and
- strengthening leadership, management and governance at all levels.

Clearly, effective leadership at all levels of education plays a critical part in realising these objectives. To contextualise an understanding of effective school leadership, the REB through its School Leadership and Management Unit (SLMU) and in collaboration with Education Partners, schools and local education leaders have developed five standards of effective school leadership in Rwanda. These five standards are:

- 1) creating a strategic direction for the school;
- 2) leading learning;
- 3) leading teaching;
- 4) managing the school as an organisation; and
- 5) working with parents and the wider community.

These standards aim to provide a framework for recruitment, certification and professional development of school leaders. As REB says:

“Standards guide the design of pre-service training and in-service professional development programmes for school leaders since they define the work that school leaders do and specify the knowledge, skills, attitudes and values required of them to do the work” (Rwanda Basic Education Board, 2020).

In 2013, the MINEDUC, in collaboration with the REB and VVOB, developed a strategic initiative to strengthen professional development for school leaders, including head teachers and deputy head teachers, and government personnels across the country. This initiative was built on the outcomes of the previous pilot projects on school management and administration. The initiative resulted in the development and introduction of a Continuous Professional Development (CPD) diploma programme titled “Effective School Leadership”. This programme was delivered in a partnership between REB, the University of Rwanda - College of Education (UR-CE), and VVOB. The design, content, and assessment of the course was informed by the five standards for effective school leadership above. The next section of this report provides further contexts of this CPD programme.

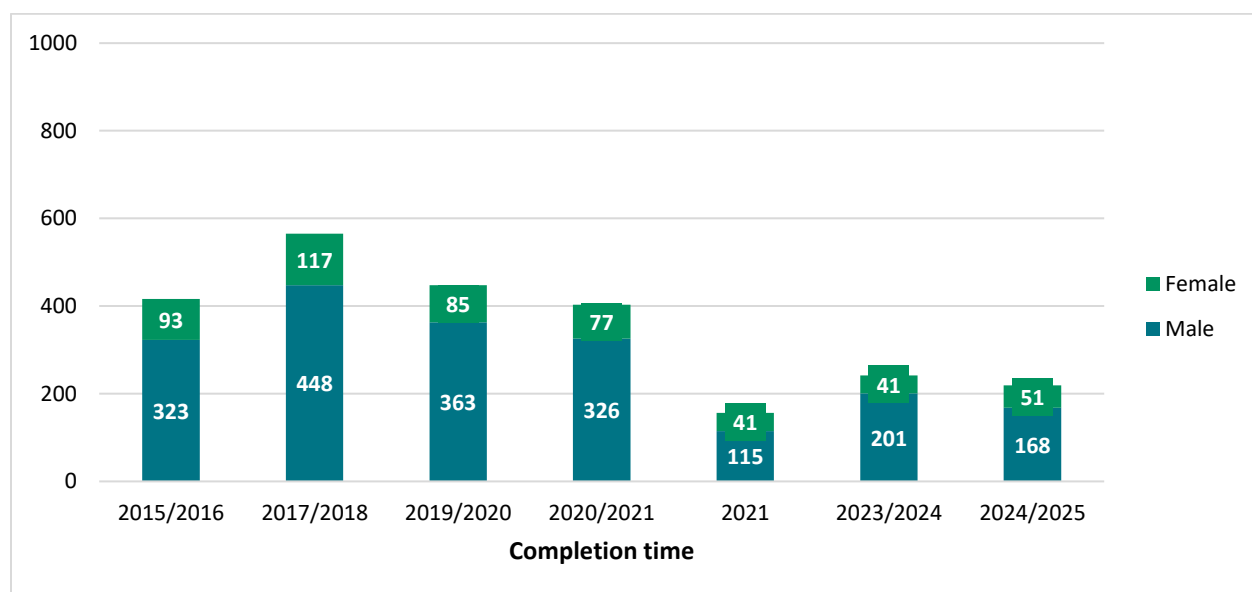
4. The Diploma in Effective School Leadership programme

The Diploma in Effective School Leadership (DESL) is designed specifically for (novice) school leaders in Rwandan primary and secondary schools. In this report, “school leaders” in this report refer to head teachers and deputy head teachers. The DESL programme aims to support head teachers and deputy head teachers, in primary and secondary schools, with development of the essential leadership competences to promote the equity and excellence in their schools. The programme was first offered by UR-CE as a Diploma Programme for head teachers across the country in 2016. Further revisions of the DESL were discussed and made, informed by a consideration of data from the exercise of monitoring and evaluation and research evidence.

Since 2018, the programme has been expanded its offer to head teachers and deputy head teachers in 17 districts. In 2019, District Directors of Education (DDEs) and District Education

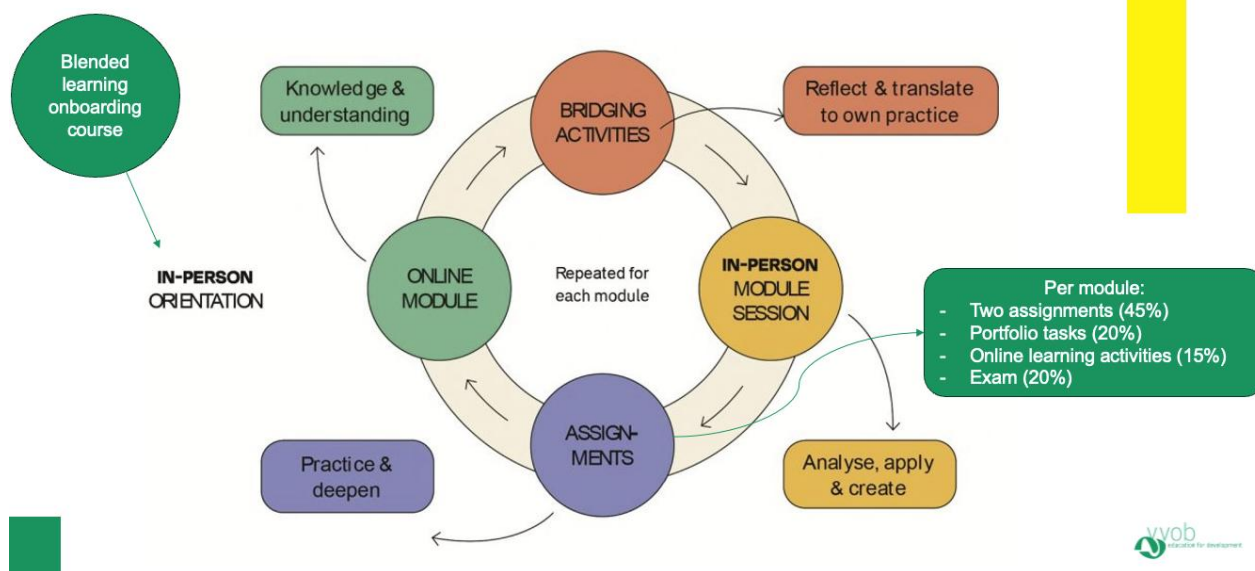
Officers (DEOs) from 17 districts were also included in the programme. By 2023, an approximate total of 1,986 head teachers, deputy head teachers and district officials participated in this CPD Programme. Since 2023, the programme has been delivered to newly assigned head teachers from primary education. Overall, around Figure 2 provides information on the number of school leaders who completed the DESL programme between 2016 and 2025, by position. The current study measured the possible impacts of the DESL on leadership, teaching and learning outcomes associated in the schools with the cohort that started in February 2024. The details on this cohort are presented in the subsequent sections.

Figure 2: Number of school leaders having completed the DESL 2016 – 2025.



After the unfortunate COVID-19 pandemic, the DESL was re-designed and delivered in a blended modality (see Figure 3), integrating components of both online and in-person learning and teaching. The current 40-UR-CE-credit programme comprises four modules, as presented below.

Figure 3: Blended learning modality utilised in the DESL programme.



An analysis of the DESL, with particular reference to the cohort starting in February 2024, underscores seven noticeable characteristics.

Characteristic 1. Having a clear link with Rwanda’s standards for effective school leadership.

The DESL programme is designed to support (novice) school leaders in achieving the five standards of effective school leadership in Rwanda (see Table 1).

Table 1: DESL programme module structure and content

Module 1 – setting direction for the school – is linked with Standard 1. It has five main units. The module provides trainees with an overview of school leadership matters and practical insights into collaborative working with various stakeholders to develop a shared vision and collective strategies for improving their schools.

Module 2 – managing the school as an organisation – relates to Standard 4 and has seven units. The module focuses on discussion of leadership and management strategies to optimise resources. The key topics cover the issues of group dynamics, management of human resources, finances, change, and knowledge and time, and application of ICT for school leadership.

Module 3 – leading learning – focuses on Standard 2. It is designed to support development of leadership strategies to promote a positive environment for teaching and learning activities. Through four units, the module facilitates guidance and discussion on implementation of Rwanda’s competence-based curriculum, management of learner behaviour, and assessment for and of learning.

Module 4 – leading teaching & working with parents and the wider community – is connected to Standard 3 (*leading teaching*) and Standard 5 (*working with parents and the wider community*). The two major units of this module facilitates discussion on effective strategies to support teacher learning and development and to work with parents and the wider community.

Characteristic 2. Engaging in a blended learning modality. Blended learning was adopted through the DESL programme. The blended delivery approach integrated online (asynchronous) and in-person (synchronous) learning activities through bridging activities to foster a staggered learning approach akin to the flipped classroom model. To prepare the trainees for a blended learning approach, the programme began with an in-person orientation occasion, establishing its purpose, delivery approach, and fostering relationships.

Trainees were required to attend a total of 8 in-person occasions in their districts through the DESL programme. Each occasion lasted 2 consecutive days, except for the one-day orientation session and coaching session. The in-person occasions happened at weekends to accommodate the trainees’ full-time work commitments during workdays in their schools.

Concurrently, trainees were asked to engage in interactive online content for both independent and collaborative learning study. Bridging activities throughout the programme aimed to prompt reflection and application of course content to their work practice. Moodle was utilised as a virtual learning and teaching platform for this programme. Financial support for internet access was provided to both the trainers and trainees.

Characteristic 3. Employing a situated learning approach. The design and delivery of the DESL was informed by a situated learning approach. This approach lays an emphasis on job-embedded

and contextualised learning and authentic experiences. The learning, teaching and assessment activities were designed to support the participating school leaders in identifying data-informed areas for improvements in their own schools and designing and implementing action plans. For example, the guidance on applying a SWOT analysis and concern-based adoption model was covered in the DESL programme. “Bridging activities” was one noticeable element across the four modules of the DESL programme (see Figure 1). These activities tended to be application-oriented, reflective, contextualised and ongoing. The trainees were requested to prepare for bridging activities linked with their schools before each in-person learning occasion. The programme focused on developing school leaders’ competences in gathering, analysing, and interpreting data to inform improvements in their schools, as detailed further in the description of the School Improvement Plan below.

Characteristic 4. Supporting development and implementation of the School Improvement Plan. The DESL programme supported school leaders with the development, implementation and monitoring of a school improvement plan (SIP) for their own schools. This is an example of the situated learning approach. These school leaders were trained to form a SIP team and garner collective inputs in the development of SIP. They collected and analysed data in their schools to identify the areas for improvements and to evaluate implementation of the SIP. They were encouraged to refine their SIP along the DESL programme.

Characteristic 5. Providing relatively structured guidance for trainers.

The DESL programme provided relatively structured instructional guidance for trainers. The trainers were lecturers from College of Education at the University of Rwanda. The trainers supported trainees with both online and in-person learning. There was an expectation for these facilitators to regularly access the virtual learning platform to moderate forum discussions and grade and provide feedback on assignments. Each trainer was responsible for coaching a maximum of 22 trainees.

The instructional guidance was developed collaboratively between trainers and education advisors. It aimed to ensure high consistency in delivery and evaluation across modules and sessions and efficient use of time during sessions. More broadly speaking, the idea was to

promote a high degree of fidelity in delivering the DESL programme across groups and cohorts and geographical locations. Appendix 1 provides an example of structured guidance in delivering one activity in Module 1.

Characteristic 6. Utilising a diversity of assessment types and activities. The DESL utilised a range of assessment types and activities to support and evaluate learning. As shown in Figure 1, each module typically had two written assignments (45%), portfolio tasks (20%), engagement in online learning activities (15%), and one exam (20%). Appendix 2 provides an example of types of assessment in one module. Trainees must pass all modules, with a minimum of 60% to successfully complete the whole DESL programme. For the evaluated cohort (2024-2025), the pass rate¹ was approximately 61%. The trainees who pass the DESL programme are awarded with a diploma certificate from the University of Rwanda. Those who are unsuccessful in completing the programme on the first occasion typically have an opportunity to attend another cohort to retake the tuition-free modules that they have failed. However, these re-take trainees need to cover additional costs (e.g., transportation costs and registration fees).

Characteristic 7. Continual monitoring and evaluation of teaching and learning activities. The DESL programme established a system for continual monitoring and evaluation of teaching and learning activities. A team of education advisors took responsibilities in monitoring the trainees' in-person attendance and engagement in online learning activities. They did weekly monitoring of the logins and participation of the trainers and trainees in online teaching and learning activities. They sent reminders of active learning engagement to the individual trainees/trainers, where necessary. Feedback from the trainers and trainees was regularly gathered and analysed to inform monitoring reports. These education advisors developed module reports that comprised data on, for example, participation, assessment scores, and pass/completion rates. These data and analyses informed future adjustments and improvements.

¹ The pass rate is calculated as the percentage of trainees who received the diploma out of the total number of trainees who enrolled in the programme and were registered as URCE students.

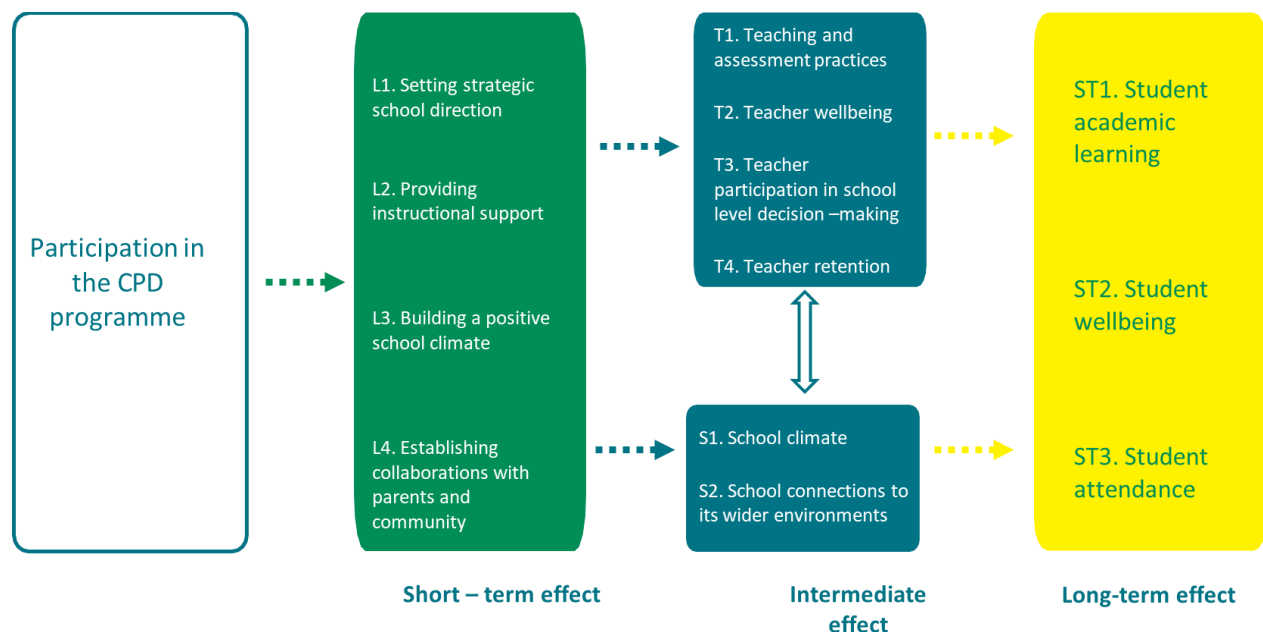
5. Theory of change

The current study aimed to address the overarching research question: *What is the impact of participation in a programme for school leaders on their leadership practices, and teaching and learning outcomes in their schools?* This question is delineated into three sub-questions:

- Sub-question 1. What is the possible impact of participation in a CPD programme for school leaders on their leadership practices?
- Sub-Question 2. What is the possible impact of school leadership on teacher and teaching outcomes?
- Sub-Question 3. What is the possible impact of school leadership on student outcomes?

The theory of change in Figure 4 presents a logic chain that informs design of this study. It is based on a consideration of Rwanda's framework for effective school leadership and international literature on leadership and pathways of school leadership impacts, as presented above. The CPD programme refers to the Diploma in Effective School Leadership.

Figure 4: Theory of change informing the current study.



As shown in Figure 4, the theory of change hypothesises impact pathways of school leaders' participation in CPD on their leadership and their schools' teaching and learning outcomes.

These leadership (L) outcomes are categorised as:

- L1. Setting strategic school direction
- L2. Providing instructional support
- L3. Building a positive school climate
- L4. Establishing collaborations with parents and community

The theory posits that a change in school leadership practices may contribute to an effect in teacher and teaching outcomes (T1, T2, T3, & T4) and other school level outcomes (S1 & S2). This potential effect is likely to influence learning outcomes that comprise student well-being, academic learning, and attendance. The current study only focuses on student well-being due to logistical constraints in gathering data on other student outcomes.

6. Methods and data

The study employed a **quasi-experimental pre-post design** comparing cohorts that have started the DESL programme with those cohorts that have not. This is a robust design in the **absence of randomisation** of cohorts or schools. The **pre-post** design enables us to see if there are any improvements in the outcomes. This is preferable to the **post-test** only design especially if the groups are not balanced at the beginning.

6.1. Instrumentation

This sub-section presents the process and outputs of instrumentation development to collect data in this project. The instruments used in this study were: (1) School & Leadership assessment instrument (S&LA), (2) teacher survey, and (3) student well-being survey. The data collection instruments were designed with a consideration of both the international literature and the Rwandan contexts, as detailed further below. Instructions in this study were communicated with the participants both in English and Kinyarwanda languages.

We conducted a pilot study in five schools to test and inform necessary refinements of the three main data collection instruments in this study. These schools have similar settings as those

schools participating in the main study. The details on this pilot study and data collection tools can be found in our [inception report](#).

Instrument 1. School & Leadership Assessment tool. The School & Leadership Assessment tool (S&LA) was developed to collect data on (i) *school-level factors* and (ii) *leadership practices*. Annex 2 presents the full S&LA used in this study. The data on (i) school-level factors include demographic information (e.g., school type, location, and facilities), school vision, school environment and structure, and learning and teaching activities. The data on (ii) school leadership practices are categorically grouped into 5 leadership standards, in reference to the latest Professional Standards by Rwanda Basic Education Board (2021). The tool aimed to measure 12 indicators as follows.

- | | |
|---|--|
| ○ Indicator 1. School vision, mission & values. | ○ Indicator 7. Financial management |
| ○ Indicator 2. Strategic planning | ○ Indicator 8. Managing learning resources |
| ○ Indicator 3. Leadership for learning | ○ Indicator 9. Managing change |
| ○ Indicator 4. Care and welfare for students | ○ Indicator 10. School governance |
| ○ Indicator 5. Staff supervision & support | ○ Indicator 11. Partnership with parents & community |
| ○ Indicator 6. Other supporting structures | ○ Indicator 12. School environment |

Instrument 1 was designed to gather various sources of data obtained from reviewing school documents, observing classes and school activities, interviewing head teachers, deputy head teachers, teachers (including grade 6 teachers), and students (including grade 6 students). Collecting multiple sources of data was necessary for triangulation and trustworthiness of the data and results.

The School & Leadership Assessment instrument (S&LA) was adapted from the School Leadership Assessment tool (S&LA). The S&LA was originally developed to evaluate schools, with a reference to the five professional standards of effective school leadership. The [original S&LA](#) was collaboratively designed by REB and organisations supporting school leadership in Rwanda and went through rounds of instrument testing and revisions.

The current research team adjusted the S&LA to better suit the data collection for this study. The key adjustments included adding the core requirement *to interview Grade 6 teachers and students and to gather school records of teacher yearly turnover rate and on student attendance and dropout*. Instructions were revised for enhanced clarity, following the pilot study of the current project. The full School & Leadership Assessment tool can be found at [this link](#).

Instrument 2. Teacher survey. This survey was designed for collect data on teachers' subject knowledge and their knowledge and practices of teaching and learning processes, instructional planning, and assessment and evaluation. We also measured teachers' degree of job satisfaction and well-being, and their intention to stay / leave a school or teaching profession. The design of this survey was informed by the key conceptualisation (e.g., Caena, 2013; Darling-Hammond, 2005; Shulman, 1987) of teacher and teaching competences and the professional standards for Rwandan teachers. It elicits teachers' responses to the items related to 10 main categories of investigation. These categories are listed as follows.

- | | |
|----------------------------------|--|
| 1. Teaching and learning process | 6. Teacher job satisfaction |
| 2. Subject knowledge | 7. Teacher well-being |
| 3. Instructional planning | 8. Teacher intention to stay |
| 4. Assessment and evaluation | 9. Teacher involvement in school decision making |
| 5. Classroom management | 10. Demographic information |

The first version of the teacher survey had a total of 52 items. We decided to keep 44 items in the finalised version, based on an analysis of factor loadings in the pilot study. The other 8 items in the first version were dropped because these are weakly loaded items as compared with the rest in the same scale. The full teacher survey is available at [this link](#).

Instrument 3. Survey of student well-being. We adapted the widely used 7-item survey of children well-being, originally developed by Allen et al. (2018). This survey, named 'How I Feel About My School' (HIFAMS), is designed for students in primary schools. It comprises seven items – each item is rated on a scale of Sad (0 points), OK (1 point), and Happy (2 points). The higher cumulative score indicates students' more positive feelings.

An analysis of the results from our pilot study indicated that only 5 items (out of 7) were loaded onto one factor solution. Individual item loadings were considered to be acceptable in comparison with the original scale (see Allen et al., 2017). These 5 items seek to measure student feelings in various settings: during their commute to school, within their classroom, engaging in learning activities, and their overall feelings about their schools and teachers. The full student survey is available at [this link](#).

6.2. Process of data collection

The process of data collection had two rounds – (1) *pre-intervention round* and (2) *post-intervention round*. The *pre-intervention round* was conducted between February and March 2024. The decision on the time was based on two main reasons to ensure the trustworthiness of the data. First, the pre-test data must be collected within a time window of 2 weeks before or after the start date of the DESL programme for the Intervention Group. The orientation session of the cohort of intervention took place on the 25th of February 2024. Second, it was to avoid hectic periods (e.g., around exam periods) of schools in Rwanda. The *post-intervention round* of data collection happened from February to March 2025. The DESL programme for the Intervention Group had finished just before the start of this data collection round. This timing arrangement for data collection is important in mitigating potential confounding factors such as shifts in national policies that could drive changes in schools not involved in the DESL programme.

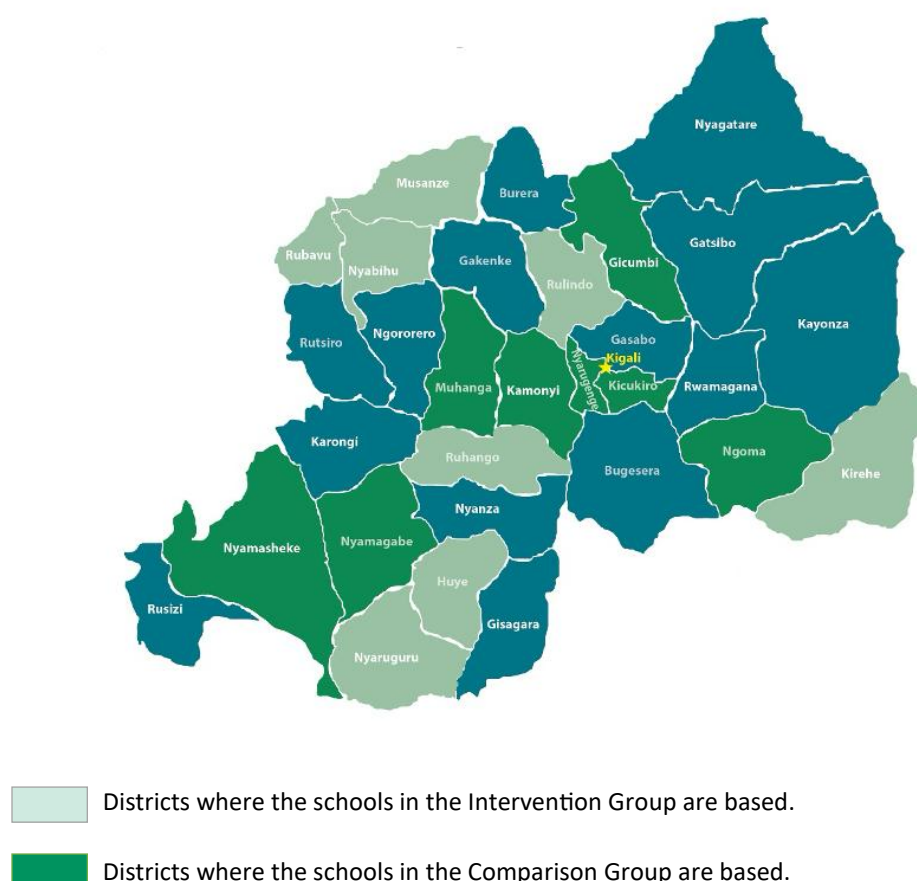
Schools were divided into two groups – Intervention Group (IG) and Comparison Group (CG). The IG comprised schools with their school leaders to have started the DESL programme in early 2024. The school leaders in the CG did not participate in the DESL programme or any other leadership programmes during this study. The data collection for both Intervention Group (IG) and Comparison Group (CG) occurred concurrently or at closely aligned time points.

The schools in the two groups are distributed across 16 districts, with each group located in eight districts, as seen in Table 2. This approach was intended to support practical logistics and, where possible, a relative balance of urban and rural schools in each group. Rwanda has 30 districts, according to the [Country Profile 2017-2018](#). Figure 5 shows the location of the districts included in the study.

Table 2: Districts and school types of IG and CG schools.

School Type	Intervention Group (IG)		Comparison Group (CG)	
	Number	From 8 districts	Number	From 8 districts
Public school	56	Gicumbi	89	Huye
Private school	13	Kamonyi	5	Kirehe
		Kicukiro		Musanze
		Muhanga		Nyabihu
Government aided school	78	Ngoma	55	Nyaruguru
Total	147	Nyamagabe	149	Rubavu
		Nyamasheke		Ruhango
		Nyarugenge		Rulindo

Figure 5: A map of the location of districts where schools in this study are situated.



 Districts not included in this study.

A group of 20 enumerators were recruited to support the process of data collection. These enumerators hold either a bachelor's degree or master's degree in education or related fields such as applied sciences and development studies. They were selected for their familiarity with this research's contexts, experience in data collection in previous projects, proficiency in using digital platforms (e.g., KoBo Toolbox) used to gather research data in Rwanda, and their translation skills between Kinyarwanda and English. These enumerators generally had a good knowledge of the Rwandan education sector. These enumerators also participated in previous education-related research projects, including those with VVOB Rwanda. One enumerator took charge of collecting data from one pre-assigned school. The same enumerators were involved in the pre and post data collection.

A number of activities were organised to train these enumerators. These activities included training events before each data collection round. In these training events, the enumerators got a more in-depth understanding of this research project and the DESL programme. They also got familiarised with research instruments. After the first in-person two-day training, a pilot test was organised in 5 schools in a district that was not part of the research study. In addition, we had a WhatsApp group and regular check-ins with each enumerator. These individual check-ins were necessary in addressing any emergent challenges or issues. The WhatsApp group allowed enumerators to conveniently and timely reach out for assistance whenever they needed advice. It also served as a platform for us to share updates on data collection and provide instructions throughout the process. Furthermore, we compiled specific questions from individual enumerators and shared guidance in the group, ensuring everyone had access to important information.

6.3. Analytical approaches

We used two approaches to analyse three main sources of data from (a) School & Leadership Assessment tool, (b) teacher survey, and (c) student survey.

a) School & Leadership assessment tool

To evaluate the potential impacts of head teachers' participation in the DESL programme on their leadership and school practices, we examined whether/to what extent schools met 12 relevant indicators. To do so, we compared the gains between the IG and CG and calculated the effect size. This approach has three steps.

Step 1. We calculated gain scores. The gain score represents the improvement from pre-intervention to post-intervention within each group. We use the following formula (see an example in Table 3).

$$\text{Gain in score} = \text{Mean Post Intervention} - \text{Mean Pre Intervention}$$

Step 2. We calculated effect size. To compare the difference in gains between the two groups, we used the following formula for effect size (see an example in Table 3).

$$\text{Effect Size (ES)} = (M_1 - M_2) / SD_{\text{Total}}$$

Where:

- M1 = Mean gain of the intervention group (IG)
- M2 = Mean gain of the comparison group (CG)
- SD Total = Standard deviation of gains across both groups (total SD)

Table 3: Comparing gains in Indicator 1 between IG and CG.

Group	Pre-Intervention Mean of Total (SD)	Post – Intervention Mean of Total (SD)	Gains in Indicator 1	Effect size
IG	3.87 (2.39) [STEP 1]	5.32 (1.06) [STEP 1]	1.45 (2.67) [STEP 1]	
CG	4.81 (1.76) [STEP 1]	4.97 (1.64) [STEP 1]	0.16 (2.02) [STEP 1]	
Total	4.34 (2.15) [STEP 1]	5.15 (1.39) [STEP 1]	0.84 (2.45) [STEP 1]	+0.53 [STEP 2]

b) Teacher survey

We applied a similar approach used in analysing data from School & Leadership Assessment tool to evaluate the potential impact of head teachers' participation in the DESL programme on their

teachers' performance outcomes and wellbeing. More specifically, we compared the gains between the IG and CG and calculated the effect size.

c) Student survey.

To analyse the data from the student survey, we collapsed the original three response categories into two following broader categories **in the first step** to enable parsimonious comparison of proportions both Intervention Group and Comparison Group:

- Category 1: Happy
- Category 2: Not Happy (a combination of "OK" and "Sad")

In the second step, we calculated percentage point differences. We used the following formula to calculate the **Difference-in-Differences (DiD)**: $DiD = (Post\ IG - Pre\ IG) - (Post\ CG - Pre\ CG)$

In the third step. We calculated the effect size using Cohen's h for comparing proportions. The formula for calculating Cohen's h is: $h = 2 \times \arcsin(\sqrt{p_1}) - 2 \times \arcsin(\sqrt{p_2})$

Where:

- p1 is the pre-intervention proportion indicating "happy"
- p2 is the post-intervention proportion indicating "happy".

In the fourth step, we calculated Cohen's h between pre-intervention and post-intervention within each group, then get the difference between those *hs*. For example:

Intervention Group: pre-intervention vs post-intervention

$$h_1 = 2 \times \arcsin(\sqrt{0.91}) - \arcsin(\sqrt{0.92}) = 2 \times \arcsin(0.9539) - \arcsin(0.9591) = -0.0102$$

Comparison Group: pre-intervention vs post-intervention

$$h_2 = 2 \times \arcsin(\sqrt{0.90}) - \arcsin(\sqrt{0.94}) = 2 \times \arcsin(0.9487) - \arcsin(0.9695) = -0.0438$$

Standardised difference in gain scores: $h = h_1 - h_2 = (-0.0102) - (-0.0438) = 0.0336$

In this example therefore, the standardised difference in gain scores (Cohen's h) between Intervention Group and Comparison Group is approximately 0.034.

7. Overview of the samples

This section presents a summary of demographic information of the two groups – Intervention Group (IG) and Comparison Group (CG). A total of 296 schools participated in this study, with a relative balanced number of two groups – IG (n = 147 schools) and CG (n = 149 schools).

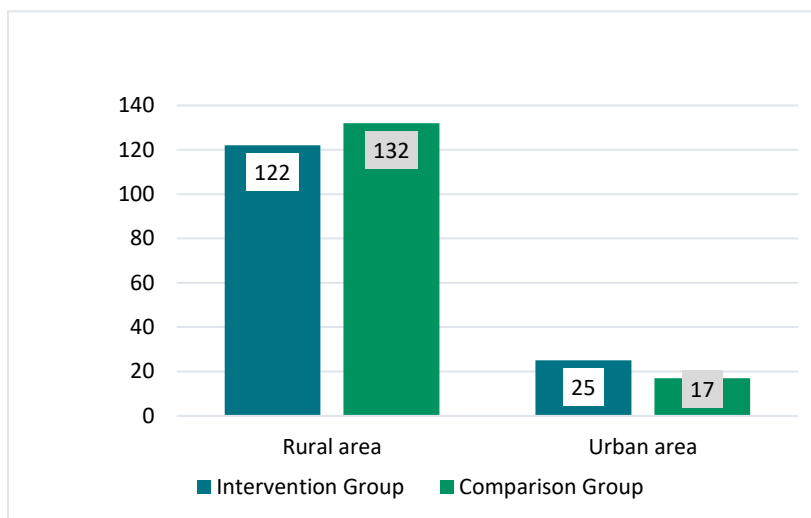


Figure 7: School location per group

7.1. Demographics of school sample

School types.

All schools included in this study have Grade 6 of primary school level. A majority of both groups are public and government-aided schools, as shown in Figure 6. However, the proportion of school types within each group is somewhat different. The IG has 55 public schools (around 37%), 79 government-aided schools (around 54%), and 13 private schools (around 9%). The CG has 91 public schools (around 61%), 54 government-aided schools (around 37%), and 3 private schools (around 2%).

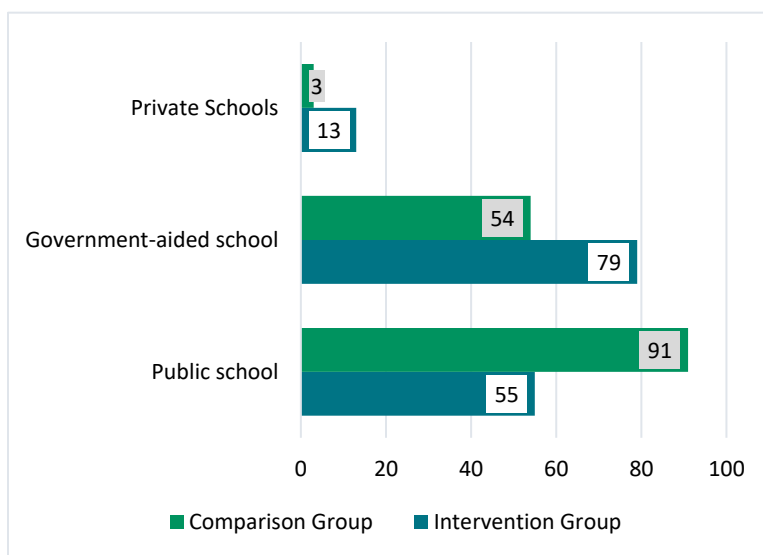


Figure 6: Number of schools per school type

School location.

Both the Intervention Group and Comparison Group have a substantial majority of schools (well over 80%) in the rural area, as seen in Figure 7. Grouping schools in this category was based on their geographic location in a district, classified as “rural area” or “urban area” by Rwanda’s socio-economic indicators. The Intervention Group has a group of 122 schools (approx. 83%) and the Comparison Group has a group of 132 schools (approx. 89%) in the rural area.

7.2. Demographics of head teacher sample

Head teachers’ professional experience.

In both groups, a majority of head teachers had either less than 5 years or between 5 years and 15 years of total professional experience (including teaching experience). Specifically, 76% of head teachers in the intervention group and 60% in the comparison group had less than 15 years of total experience (see Figure 8). A total of 34 participants (11 in the intervention group and 23 in the comparison group) did not respond to this question.

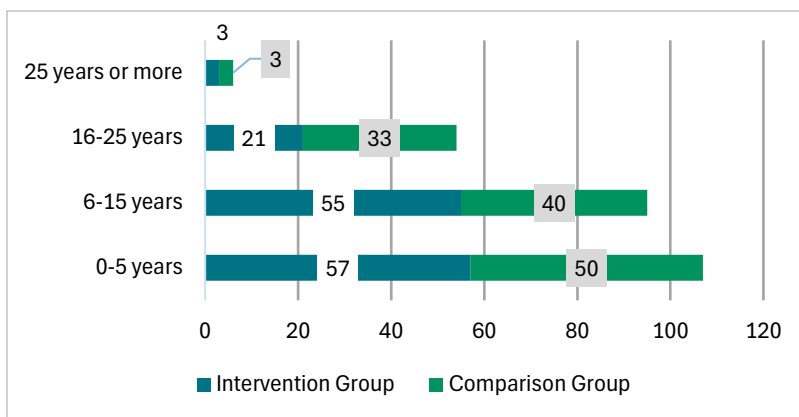


Figure 8: Headteachers' years of overall professional experience

At the time of data collection, most of the head teachers had less than five years of working in their current schools — 90% in the intervention group and 79% in the comparison group (see Figure 9). Thirty participants (10 in the intervention group and 20 in the comparison group) did not answer this question.

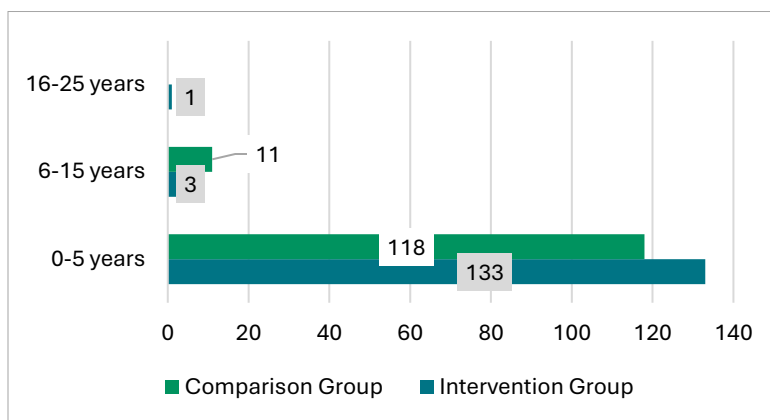


Figure 9: Head teachers' years of working in the current schools

Head teachers' sex.

Both groups (IG and CG) had a significantly greater number of male head teachers than female counterparts, as shown in Figure 10. No information on sex was documented for a marginal number of head teachers (IG = 2.7%; CG = 12.1%). The question on head teachers' sex is optional – participants can choose not to provide this information.

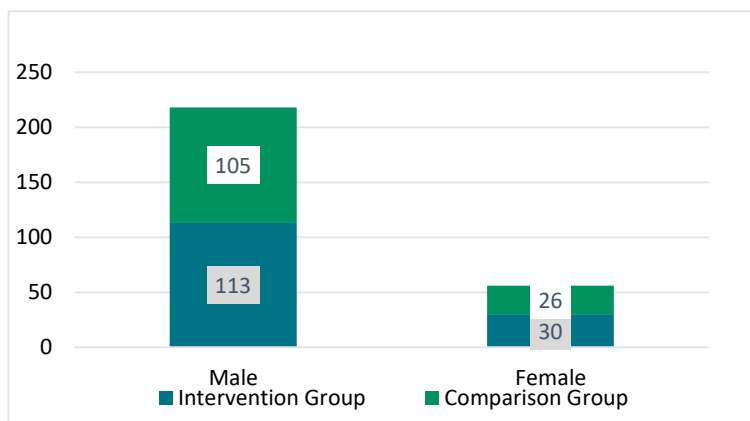


Figure 10: Head teachers' sex

Head teachers' educational qualifications.

A substantial majority of headteachers had a bachelor's degree or a higher degree. A small number of head teachers had a diploma certificate (A1). A group of 48 IG head teachers and of 31 CG head teachers did not go to university, as seen in Figure 11.

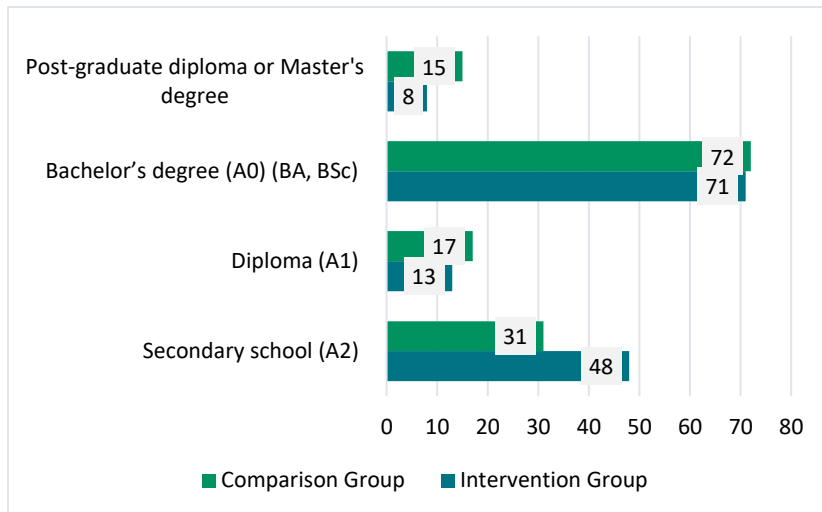


Figure 11: Head teachers' educational qualifications

7.3. Demographics of teacher sample

This study had a sample of 1648 teachers participating in both rounds of data collection, comprising N = 744 teachers in the Intervention Group and N = 904 teachers in the Comparison Group. This sample included grade 6 teachers.

Teacher sex.

Unlike the demographics of school leaders, both groups (IG and CG) had a greater number of female teachers than that of male counterparts, as seen in Figure 12. A minor number of teachers (IG = 0.9%; CG = 0.3%) did not fill in the information on their sex.

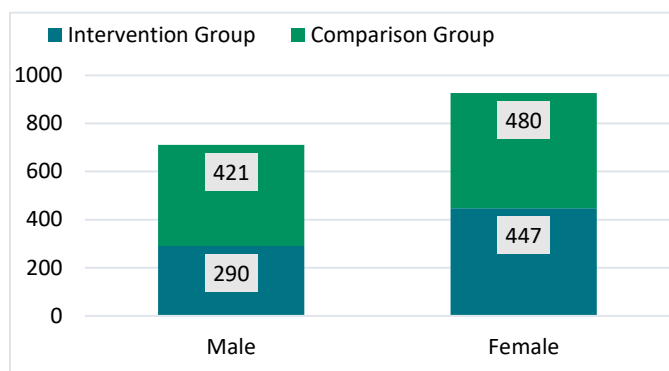


Figure 12: Teachers' sex

Teachers' years of teaching experience.

Figure 13 shows that more than 50% in both IG and CG had less than 5 years of teaching experience, at the time of data collection. Most of the others fell in either of the two categories of 6-15 years and 16-25 years. A small percentage of teachers in both groups had more than 25 years of teaching experience (IG = 4.7%; CG = 4.2%).

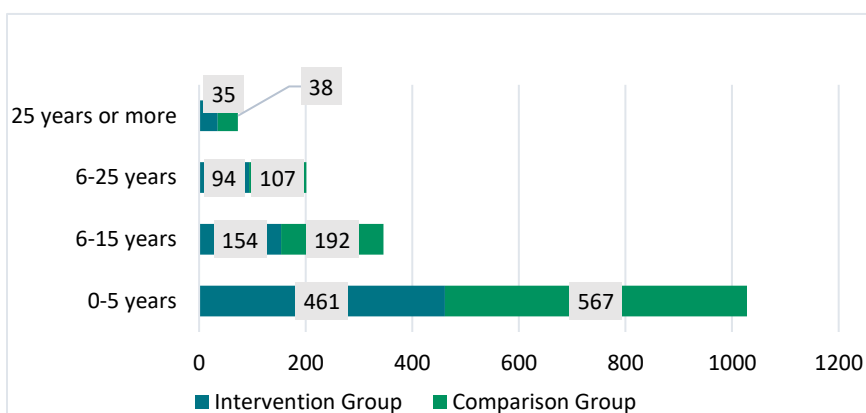


Figure 13: Teachers' years of teaching experience

Teachers' educational qualifications.

Most teachers in both groups (IG = 82.7% and CG = 81.4%) got a secondary school (A2) degree. Less than 10% of teachers in both groups earned a bachelor's degree. Figure 14 provides data on teachers' qualifications.

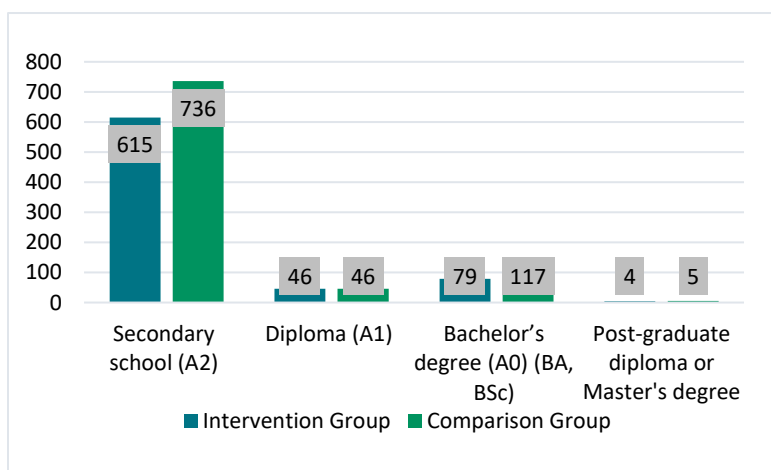
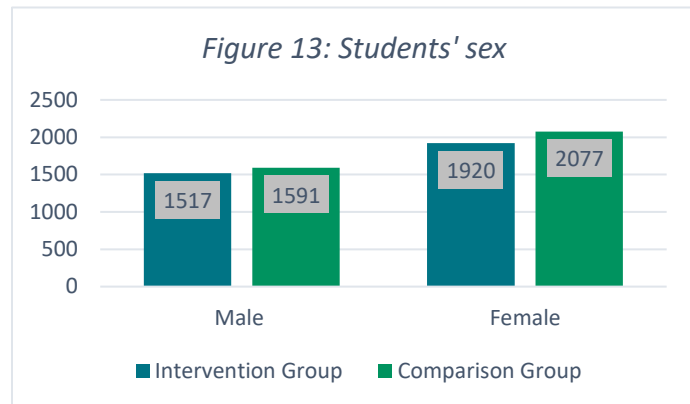


Figure 14: Teachers' educational qualifications

7.4. Demographics of student sample

The final sample in the current study consisted of 7,153 Grade 6 students, including 3,450 in the Intervention Group and 3,703 in the Comparison Group. Two different cohorts of Grade 6 students participated in the pre-test and post-test rounds.

Students' sex. The sex proportion of students in both groups shared a highly similar pattern, with a greater number of female students as compared with that of male students, as seen in Figure 13. A marginal number of students chose not to fill in the information on their sex (IG = 0.4% and CG = 0.9%).



8. Findings

This section presents findings in response to the research questions.

Question 1. What is the possible impact of participation in a CPD programme for school leaders on their leadership practices?

Finding 1. *Overall, head teachers' participation in the DESL programme has a positive impact on their leadership practices and formulation of plans for school improvements, processes and practices.*

We measured any changes on the investigated schools' leadership, processes and practices, before and after the intervention. These outcomes were measured with particular reference to the 12 indicators of effective school leadership in alignment with Rwanda's professional standards for school leaders. For convenient presentation, the outcomes of these 12 indicators are called **"School & Leadership" (S&L) outcomes**.

We compared one composite outcome between the IG and CG in the pre-test and post-test data collection. This **composite outcome** is the average outcome of the 12 single S&L outcomes. The results in Table 4 indicate that IG schools generally showed higher scores in meeting the overall leadership indicator than those in the CG. More IG schools improved their leadership performance at the post-test stage compared to CG schools. The average gain was 13.32 for IG, while it was 3.01 for CG. The effect size was +0.40. These overall results suggest a positive impact of head teachers' participation in the DESL programme on changing the investigated schools' leadership, processes and practices.

Table 4: *Comparing gains in the composite S&L outcome between IG and CG before and after the intervention.*

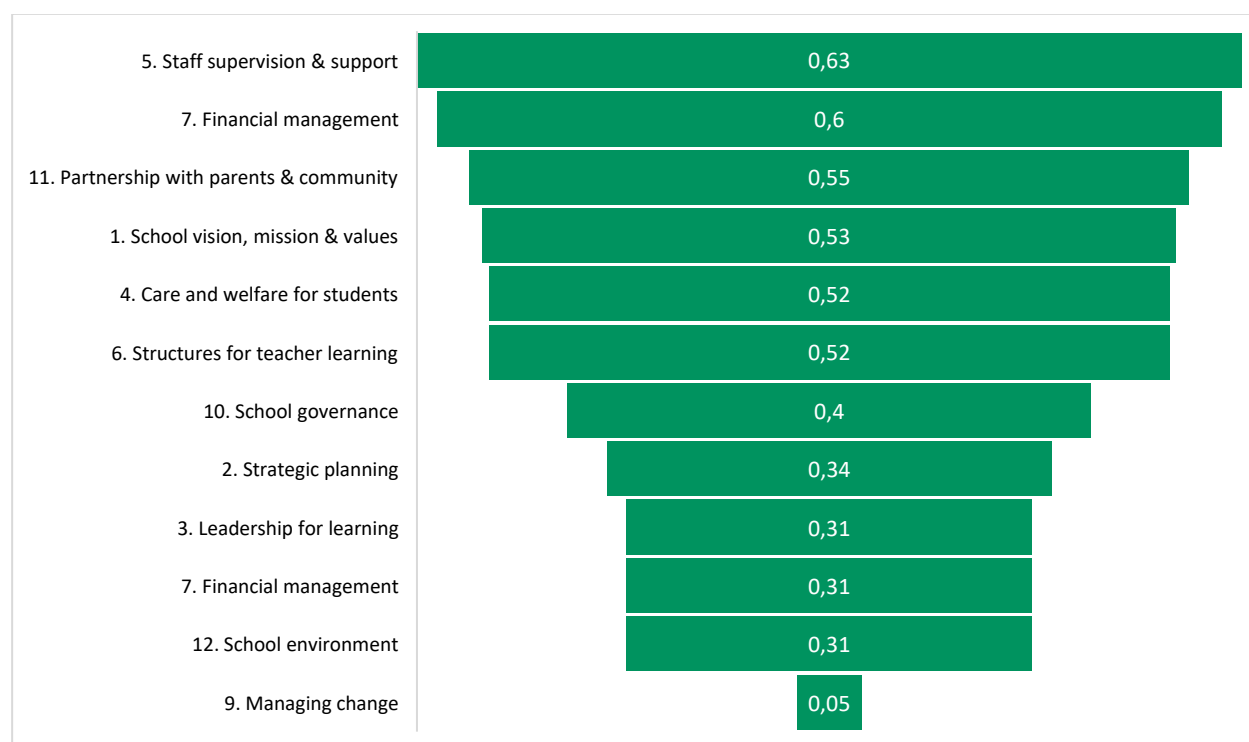
Group	Pre-Intervention Mean of Total (SD)	Post-Intervention Mean of Total (SD)	Gains in the composite S&L outcome	Effect size
IG	38.79 (13.17)	52.11 (9.09)	13.32 (14.98)	
CG	44.32 (11.42)	47.33 (13.07)	3.01 (14.25)	
Total	41.57 (12.61)	49.70 (11.50)	8.13 (15.48)	+0.40

Finding 2. Overall, in these schools, there appears to have been a greater progress in the indicators pertaining to “developing school vision and values”, “supporting student well-being”, “providing instructional support for teachers”, “financial management”, and “partnership with parents and community”, as compared with the other indicators.

We made a comparison of single S&L outcomes between the IG and CG in the pre-test and post-test data collection. This more in-depth analysis shows the effect size of each S&L outcome. Overall, IG schools scored higher than CG schools in all assessment indicators.

As seen in Figure 15, the effect sizes (over 0.5) of indicators pertaining to *developing school vision and values (indicator 1)*, *supporting student well-being (indicator 4)*, *supporting staff development (indicators 5 & 6)*, *managing financial matters (indicator 7)*, and *establishing partnership with parents and community (indicator 11)* are greater than the other indicators. The effect size of Indicator 9 (managing change) is smallest among all indicators. Indicator 9 measures how effectively the changes within the school are managed. The full results of all indicators can be found in Appendix 3.

Figure 15: Effect size of S&L outcomes.



Finding 3. *The schools where head teachers were successful in completing the entire DESL programme on the first occasion showed more progress in meeting indicators for Rwanda’s effective school leadership standards.*

Table 5: Comparing gains in the composite S&L outcome between PASS and FAIL groups based on DESL results.

DESL Results	Pre-intervention Mean of Total (SD)	Post-intervention Mean of Total (SD)	Gains in the composite S&L outcome	Effect Size
PASS	40.31 (14.47)	50.88 (11.57)	10.56 (15.81)	
FAIL	42.64 (13.19)	50.83 (10.32)	8.19 (15.74)	
Total	41.23 (13.98)	50.86 (11.06)	9.63 (15.77)	+0.15

Within the Intervention Group, we examined whether head teachers’ successful completion of the DESL programme could make any difference in their schools’ progress in meetings indicators for effective school leadership. The total number of IG head teachers was $n = 147$. A group of 89 head teachers passed the programme. The rest ($n = 58$) failed in the programme.

The results in Table 5 indicate that the schools where their head teachers passed the DESL programme on the first occasion showed somewhat greater improvement in the composite S&L outcome. The average gain was 10.56 for the PASS group and 8.19 for the FAIL group. The effect size of +0.15 suggests some impact of passing the DESL programme on the S&L outcome.

Finding 4. *There has been a slightly greater progress in meeting indicators for Rwanda’s effective school leadership standards in the schools where both head teachers and deputy head teachers participated in the same cohort of the DESL programme.*

All schools ($n = 147$ schools) in the Intervention Group must have head teachers participating in the currently investigated DESL programme. Some schools ($n = 133$) had only their head teacher (*single participation*) while others ($n = 14$) had both their head teacher (HT) and deputy head teacher (DHT) participating in this DESL programme (*team participation*). We examined whether

this team participation might make any difference in their schools' progress in meeting indicators for effective school leadership.

Table 6: Comparing gains in the composite S&L outcome between “single participation” and “team participation”.

Participation in the DESL Programme	Pre-intervention Mean of Total (SD)	Post-intervention Mean of Total (SD)	Gains in the composite S&L outcome	Effect Size
Single participation (only HT)	40.98 (14.06)	50.50 (11.36)	9.51 (15.97)	
Team participation (Both HT & DHT)	43.57 (13.44)	54.29 (7.00)	10.71 (14.22)	
Total	41.23 (13.98)	50.86 (11.06)	9.63 (15.77)	+0.14

The results in Table 6 indicate that schools where team participation in the DESL programme showed slightly greater improvement in the S&L outcome, as compared to the single participation. The average gain was 10.71 for the “team participation” group and 9.51 for the “single participation” group. The effect size of +0.14 suggests some positive impact of broader school leadership team participation on school and leadership outcomes. The evidence on this finding, however, is inconclusive, given the small sample to compare the schools with only head teachers and those with both head teachers and deputy head teachers having participated in the DESL programme.

Finding 5. *Overall, there is no clear evidence to conclude firmly on any noticeable effects of demographic factors on schools meeting indicators for Rwanda’s effective school leadership.*

To examine which factors/variables appeared to predict S&L outcomes, we conducted multivariate regression analyses. The dependent variable is the post-intervention score of each indicator. The independent or predictor variables are: *head teacher’s sex, their educational level, years of professional experience, years of experience at the school, the location of the school, type of school, and the pre-intervention score*. These variables were entered into the model, all at once, using:

- the head teachers' demographic factors in Step 1 (e.g., sex, educational level and years of experience),
- followed by school characteristics in Step 2,
- the pre-intervention score of each indicator in Step 3, and
- finally, the intervention group in Step 4.

Table 7: Model summary predicting the composite S&L outcome after the intervention.

R	R squared	Adjusted R squared
0.39	0.15	0.12

The overall model correlates with the **composite S&L outcome** with an R of 0.387. The R² of +0.150 means that the model explains 15.0% of the variance in the outcome. However, the adjusted R² drops slightly to 0.121 (see Table 7) when adjusted for the number of predictors. This result suggests that the variation in the composite S&L outcome is partially explained by the variables in the model. Further analysis in Table 8 shows that demographic variables have no or very weak statistical links with the composite S&L outcome.

Table 8: Regression model predicting the composite S&L outcome.

Steps		Unstandardised B coefficient	Standardised B coefficient
1	Constant	0.59	
1	Head teacher's sex	0.03	+0.06
1	Head teacher's educational qualifications	0.00	+0.03
1	Head teachers' years of overall professional experience	0.01	+0.03
1	Head teachers' years at the school	0.00	+0.00
2	Location of school (rural vs. urban)	0.03	+0.07
2	Type of school	0.02	+0.11
3	Pre-score of the composite S&L outcome	0.29	+0.32
4	Intervention group or not (1 = intervention, 2 = control)	-0.08	-0.25

The strongest predictor of post-intervention scores on the composite S&L outcome is the pre-intervention score ($\beta = +0.321$). Furthermore, the Intervention Group shows a notable

standardized coefficient ($\beta = -0.251$), suggesting that participation in the intervention (coded as 1) was positively associated with a stronger composite S&L outcome. This result provides further statistical evidence on the impact of head teachers' participation in the DESL programme on the composite S&L outcome in their schools.

Question 2. What is the possible impact of school leadership on teacher and teaching outcomes?

As noted earlier, teacher and teaching outcomes in this study comprise teachers' self-ratings on: (a) their own subject knowledge and practices of teaching and learning processes, instructional planning, and student learning assessment; and (b) their job satisfaction, well-being and intention to stay / leave a school or teaching profession.

Finding 6. *Overall, there is no clear evidence that head teachers' participation in the DESL programme had an impact on teachers and teaching outcomes in their schools in the 12-14 months, counting from their start of the DESL programme.*

The results show almost no gains, after the intervention, in teachers' perceptions of their teaching and learning process (ES = -0.02), instructional planning (ES = -0.06), assessment and evaluation (ES = -0.07), classroom management (ES = -0.01), job satisfaction (ES = -0.03), intention to stay/quit (ES = -0.02) , and teacher involvement in school decision making (ES = -0.05). They suggest some very minor changes in teachers' self-ratings of subject knowledge (ES = -0.10) and teacher well-being (ES = -0.11). These marginal changes appear to be somewhat negative, though there is no basis for any firm conclusions on the impact of the intervention on teacher and teaching outcomes.

Table 9: Comparing teacher and teaching outcomes between IG and CG before and after the intervention.

Group	Pre-intervention Mean of Total (SD)	Post-intervention Mean of Total (SD)	Gains in outcomes	Effect size
Teaching and learning process				
IG	35.31 (5.49)	35.69 (4.80)	0.38 (6.45)	

Group	Pre-intervention Mean of Total (SD)	Post-intervention Mean of Total (SD)	Gains in outcomes	Effect size
CG	34.91 (5.26)	35.40 (5.03)	0.49 (6.84)	
Total	35.09 (5.36)	35.53 (4.93)	0.44 (6.66)	-0.02
Subject knowledge				
IG	18.68 (2.74)	18.60 (2.66)	-.08 (3.56)	
CG	18.40 (2.63)	18.66 (2.38)	.259 (3.24)	
Total	18.53 (2.68)	18.64 (18.64)	.11 (3.39)	-0.10
Instructional planning				
IG	28.89 (2.78)	28.83 (2.52)	-0.06 (3.21)	
CG	28.32 (3.28)	28.49 (2.72)	0.17 (3.84)	
Total	28.58 (3.08)	28.64 (2.64)	0.07 (3.57)	-0.06
Assessment and evaluation				
IG	28.89 (2.78)	28.83 (2.52)	-0.06 (3.21)	
CG	28.32 (3.28)	28.49 (2.72)	0.17 (3.84)	
Total	28.58 (3.08)	28.64 (2.64)	0.07 (3.57)	-0.07
Classroom management				
IG	26.48 (7.09)	26.90 (6.28)	0.43 (8.32)	
CG	25.85 (6.87)	26.39 (6.62)	0.54 (8.29)	
Total	26.13 (6.98)	26.62 (6.47)	0.49 (8.30)	-0.01
Teacher job satisfaction				
IG	46.79 (5.38)	45.70 (6.37)	-1.09 (6.74)	
CG	46.44 (5.44)	45.57 (6.41)	-0.87 (7.09)	
Total	46.60 (5.42)	45.63 (6.39)	-0.97 (6.93)	-0.03
Teacher well-being				
IG	46.23 (5.94)	44.69 (6.99)	-1.54 (7.72)	
CG	45.89 (6.16)	45.18 (6.76)	-0.70 (7.67)	
Total	46.04 (6.06)	44.96 (6.87)	-1.08 (7.70)	-0.11
Teacher intention to stay in the school				
IG	17.92 (3.27)	17.44 (3.62)	-0.48 (4.16)	
CG	17.76 (3.24)	17.38 (3.52)	-0.38 (4.05)	
Total	17.83 (3.26)	17.40 (3.56)	-0.43 (4.10)	-0.02
Teacher involvement in school decision-making				

Group	Pre-intervention Mean of Total (SD)	Post-intervention Mean of Total (SD)	Gains in outcomes	Effect size
IG	12.43 (6.76)	11.70 (6.66)	-0.72 (7.22)	
CG	12.42 (6.75)	12.09 (6.73)	-0.34 (8.04)	
Total	12.42 (6.76)	11.91 (6.70)	-0.51 (7.68)	-0.05

Question 3. What is the possible impact of school leadership on student outcomes?

The current study examined if the changes in the schools of the Intervention Group have any impacts on their students' sense of happiness. Student well-being in this study refers to their sense of happiness, measured through 5 items shown in Table 10 below.

Finding 7. *There is no clear evidence on the impact of head teachers' participation in the DESL programme on students' self-reported sense of happiness in their schools after 12 months. This time was counted from the month that these head teachers started the DESL programme. As shown in Table 10, there are hardly any noticeable gains in the students' self-ratings of their sense of happiness in both groups before and after the intervention.*

Table 10: Comparing students' sense of happiness between IG and CG before and after the intervention.

Item	Group	Pre-test (Proportion)	Post-test (Proportion)	Gains	Cohen's h
Item 1. On my way to school I feel happy.	IG	0.92	0.91	-0.01	0.05
	CG	0.94	0.92	-0.04	
Item 2. When I am in the classroom, I feel happy.	IG	0.89	0.89	0.0	0.00
	CG	0.91	0.91	0.0	
Item 3. When I am doing my schoolwork, I feel happy.	IG	0.88	0.88	0.0	0.00
	CG	0.88	0.88	0.0	
Item 4. When I think about my teacher, I feel happy.	IG	0.85	0.84	-0.01	0.03
	CG	0.86	0.84	-0.02	
Item 5. When I think about school, I feel happy.	IG	0.89	0.88	-0.01	0.00
	CG	0.91	0.9	-0.01	

8. Discussion of findings and recommendations

This section discusses strengths and limitations of the current impact-evaluation study. It highlights key implications and recommendations for practice, policy and future research.

8.1. Strengths and limitations

This impact-evaluation study has its strengths as well as (possible) limitations.

First, the quasi-experimental pre-post design comparing two groups of intervention (147 schools) and comparison (149 schools) schools is a strength. This is considered the most robust design in the absence of randomisation of cohorts, to examine whether there are any improvements in the targeted outcomes. It has advantages over the post-test-only design. However, the sample was relatively small for a strong confidence in Findings 3 and 4. This was because our sampling approach needed to consider various factors, including the pedagogical (e.g., availability of qualified trainers, cohort/class size to ensure training quality) and logistical arrangements (e.g., human resources to enable intensive data collection in each school).

Second, the sources of collected data had both advantages and limitations. Scoring/rating indicators from School & Leadership assessment tool was positively based on multiple sources of data – interviews with school leaders, teachers, parents and students. We primarily relied on self-reports from teacher and student surveys to measure teacher and student outcomes. Having been aware of this possible limitation, we designed questions/items to minimise social desirability bias, where possible. For example, we asked teachers to indicate on a scale from 0 - 10 *“I need more professional support in planning lessons for students with various learning needs”* – we did not ask them to directly self-rate their competence in lesson planning such as *“I am effective at planning lessons for students with various learning needs”*. The short student survey mostly asked students about their own feelings. All instructions on data collection tools were explained in the participants’ native language and English.

Furthermore, we planned to measure more teacher (e.g., teacher retention rate) and student (e.g., Primary Leaving National Examination results) outcomes. Nevertheless, the practical constraints, unexpectedly emerging and beyond the research team’s control, precluded more

ambitious data collection. In this report, we presented transparently some important findings on key outcomes from two rounds of data collection.

Fourth, (detecting) changes in school-level, teaching and learning outcomes require(s) a longer process of years (see the review by (Darling-Hammond et al., 2022)). The changes of the school-level factors documented in this study only reflected the first year since the start of the intervention. The sustained impacts of these changes depend on the subsequent implementation or happenings in schools. We, therefore, present some recommendations below for future research to track longer term impacts in this report.

8.2. Recommendations

The evidence suggests some initial impacts of headteachers' participation in the DESL leadership development programme on their leadership practices and on designing and implementing their school policies and processes in alignment with Rwanda' national framework for effective school leadership. The following evidence-informed recommendations are formulated to inform future strategies to further measure and enhance impacts of this programme and similar leadership development programmes/courses for (novice) school leaders.

Recommendation 1. Providing follow-up support for implementation of innovative changes for improvements through sustained coaching and ongoing communities of practice.

The current study has detected some positive impacts of structured leadership development on school-level leadership, practices, and processes (see Finding 1). "Positive impacts" hereby refer to the extent to which the investigated schools meet indicators for effective school leadership in Rwanda. The DESL programme is an outcome of a *close partnership* over years between a non-profit organisation (VVOB), the University of Rwanda, and the REB and districts in the country. It gives emphasis on *applied learning* through developing school leaders' competences in *gathering, analysing and interpreting data* to identify *changes for improvements* and implement these *innovative changes* in their own schools. The content of the programme has a strong alignment with *Rwanda's professional standards* for school leaders. These are among the prominent characteristics of high-quality professional development for school leaders, as consistently noted in the syntheses of research (Darling-Hammond et al., 2007, 2022).

Coaching headteachers in designing and implementing a school improvement plan (SIP) in their schools is central to this DESL leadership development programme. Together with the design of this SIP, these participating headteachers (and where applicable, deputy headteachers) are expected to work with stakeholders in their own schools to initiate innovative changes for improvements in teaching and learning. While these initial impacts in the early-stage implementation of changes are encouraging, there is no guarantee that these impacts get sustained and strengthened in a longer term. There currently appears to be no structured support for the implementation stage after completion of this one-year programme. Providing follow-up quality support for implementation of the innovative changes a result of headteachers' learning from the programme could maximise the potential longer-term impacts on teaching and learning outcomes in schools.

This post-intervention support could be contextually explored and realised in various ways, optimising the current and potential resources. One cost-effective way might be to facilitate ongoing *communities of practices* for school leaders within and across districts to promote collaborative learning and peer support. Increasing more opportunities through more in-person sessions could be a way to promote establishment of these communities and networks for school leaders during-and-post the intervention programme. The current DESL programme offered a total of 12 in-person one-day sessions within one year. To the feasible extent of human and financial resources, the post-intervention support could be realised through providing *sustained coaching* to school leaders in addressing emergent challenges in the process of implementing and evaluating their SIPs. This recommendation is also built on the previous research evidence on the potential benefits of communities of practice and sustained coaching in developing school leaders (Darling-Hammond et al., 2022; Drago-Severson, 2012; Tingle et al., 2017), especially those in the early state of headship/principalship (Bertrand et al., 2018). Based on these analyses, the first recommendation is *to provide follow-up support for implementation of innovative changes for improvements through sustained coaching and ongoing communities of practice*.

Recommendation 2. Further strengthening focus on coaching headteachers on effective strategies to manage change, within the available resources, to implement innovations.

Our review of the curriculum documentation of the DESL programme suggested that the content on managing organisational change was part of the DESL programme. Nevertheless, Indicator 9 - *managing change* – was rated lowest of all 12 school & leadership indicators, as noted in Finding 2. Indicator 9 aims to measure how innovative changes are introduced and managed in schools. Scoring each indicator was informed by multiple sources of data including interviews with teachers, students and parents, as mentioned earlier. Our reflections on the statistical evidence and broader contextual factors highlight some possible explanations.

The content of School Improvement Plans (SIPs) tends to be influenced by and evaluated in reference to Rwanda’s effective school leadership standards. Key innovative changes in these SIPs appear to promote implementation of national policies such as mandatory use of English as a medium of instruction and utilising ICT to support learning, teaching, and management in schools. Our fieldnotes in 2024 also suggest that many teachers and students did not feel comfortable in using English as a means of instruction. We had some conversations and interviews with Grade 6 teachers– and in those interviews, these teachers seemed to feel more comfortable in sharing their thoughts in Kinyarwanda. When we passed by classes, teachers tended to use Kinyarwanda to deliver instruction to students.

Similarly, promoting effective use of information communications technology (ICT) in teaching and learning is an important feature in the country’s effective educational leadership standards and schools’ SIPs. However, many schools, especially in rural areas, have a limited number of digital devices (e.g., computers). When we asked some teachers in one rural school on their ways of optimising ICT in education, the general response was: “*we use our personal mobile phones to search for knowledge on the internet*”.

Implementation of these policies, if without proper transitioning period and resources, may negatively influence the stakeholders’ readiness, receptivity and behaviours. Rwanda’s more substantial investments in school infrastructure and resources, including ICT facilities, are needed urgently and should be sustained in a longer term. In the meantime, *further strengthening coaching for (novice) school leaders with contextualised strategies to manage change, within the*

available resources, to implement innovations - developed from their participation in the DESL programme - is strongly recommended.

Recommendation 3. Further strengthening the follow-up support for those headteachers who have not passed the programme.

The overall analysis shows that the schools, with headteachers passing the DESL leadership development programme, appear to have made more progress in meeting the evaluation criteria. To pass the DESL programme, these headteachers were supposed to successfully complete a range of assignments and tasks across four modules, as detailed further in the section of the DESL programme. These included an SIP, portfolios of evidence, quizzes, satisfactory participation in online and in-person discussion fora, and exams. As noted earlier, the pass rate (approx. 61%) was relatively low for the evaluated cohort (i.e., Intervention Group). Those who did not successfully complete the programme on the first occasion had opportunities to participate in failed modules in a following cohort. To enhance the impacts of the DESL programme, it is recommended to further explore and undertake practical ways for follow-up support for these school leaders.

Recommendation 4. Incentivising participation in a structured leadership development programme through time and financial support.

Donor funding has enabled the current DESL leadership development programme to be free of charge to the participating school leaders. Participation in this programme was on top of their typical daily workload of the participants. In-person sessions happened at weekends. The school leaders tended to engage with online activities and worked on tasks and assignments associated with the programme after their typical work hours in their schools. Furthermore, the feedback from the participants underscored a major challenge in concurrently managing a full-time job and active engagement in the one-year DESL programme. This issue could be an attributable factor to the low successful completion rate of the programme. Looking forward, it is important to consider ethical ways of lobbying the Ministry of Education (MINEDUC) to protect time for continuous/continuing professional development (CPD) for school leaders within their core workload. Equally importantly, financial support for recruited participants is necessary if/once

successful completion of an accredited CPD programme is made a compulsory requirement to be a qualified headteacher in Rwanda. This is to ensure no financial barriers to recruiting effective school leaders for the country.

Recommendation 5. Measuring longer-term impacts of structured leadership development on leadership, teaching and learning outcomes.

Finding 1 suggests some impacts of structured leadership development on leadership practices and the initiation and (early-stage) implementation of innovative changes in schools. Findings 6 and 7 recommend no clear associated impacts on teacher and student outcomes in the 12 months. One possible explanation is that there might be a mix of receptive and sceptical feelings and reactions among teachers and students in the early stage of implementing any changes, especially when the changes have not been in clear effect yet. For a firmer understanding of any impacts on longer-term and specific teacher and student outcomes, it requires follow-up and robust evaluation in the second and probably third years.

9. References

- Allen, K., Marlow, R., Edwards, V., Parker, C., Rodgers, L., Ukoumunne, O. C., Seem, E. C., Hayes, R., Price, A., & Ford, T. (2018). 'How I Feel About My School': The construction and validation of a measure of wellbeing at school for primary school children. *Clinical Child Psychology and Psychiatry*, 23(1), 25–41. <https://doi.org/10.1177/1359104516687612>
- Barbieri, B., Sulis, I., Porcu, M., & Toland, M. D. (2019). Italian Teachers' Well-Being Within the High School Context: Evidence From a Large-Scale Survey. *Frontiers in Psychology*, 10, 1926. <https://doi.org/10.3389/fpsyg.2019.01926>
- Bertrand, L. A., Stader, D., & Copeland, S. (2018). Supporting new school leaders through mentoring. *School Leadership Review*, 13(2), 7.
- Campoli, A., Darling-Hammond, L., Podolsky, A., & Levin, S. (2022). *Principal learning opportunities and school outcomes: Evidence from California*. Learning Policy Institute. <https://doi.org/10.54300/438.376>
- Cann, R. F., Riedel-Prabhakar, R., & Powell, D. (2021). A Model of Positive School Leadership to Improve Teacher Wellbeing. *International Journal of Applied Positive Psychology*, 6(2), 195–218. <https://doi.org/10.1007/s41042-020-00045-5>
- Darling-Hammond, L., LaPointe, M., Meyerson, D., & Orr, M. T. (2007). *Preparing school leaders for a changing world: Lessons from exemplary leadership development programs*. Stanford Educational Leadership Institute.
- Darling-Hammond, L., Wechsler, M. E., Levin, S., Leung-Gagne, M., & Tozer, S. (2022). *Developing effective principals: What kind of learning matters?* Learning Policy Institute. <https://doi.org/10.54300/641.201>
- Day, C., Sammons, P., & Gorgen, K. (2020). Successful School Leadership. *Education Development Trust*. <https://eric.ed.gov/?id=ED614324>
- Donley, J., Detrich, States, J., & Keyworth, R. (2021). *Principal Preparation*. The Wing Institute. https://www.researchgate.net/publication/350355316_Principal_Professional_Development_Wing_Institute_Original_Paper

- Drago-Severson, E. (2012). The need for principal renewal: The promise of sustaining principals through principal-to-principal reflective practice. *Teachers College Record*, 114(12), 1–56.
- Grissom, J. A., Egalite, A. J., & Lindsay, C. A. (2021). How principals affect students and schools. *Wallace Foundation*.
- Grissom, J. A., & Harrington, J. R. (2010). Investing in Administrator Efficacy: An Examination of Professional Development as a Tool for Enhancing Principal Effectiveness. *American Journal of Education*, 116(4), 583–612. <https://doi.org/10.1086/653631>
- Hallinger, P. (2005). Instructional leadership and the school principal: A passing fancy that refuses to fade away. *Leadership and Policy in Schools*, 4(3), 221–239.
- Hallinger, P. (2018a). Bringing context out of the shadows of leadership. *Educational Management Administration & Leadership*, 46(1), 5–24.
- Hallinger, P. (2018b). Surfacing a hidden literature: A systematic review of research on educational leadership and management in Africa. *Educational Management Administration & Leadership*, 46(3), 362–384. <https://doi.org/10.1177/1741143217694895>
- Howley, C., Howley, A., Yahn, J., VanHorn, P., & Telfer, D. (2019). Inclusive instructional leadership: A quasi-experimental study of a professional development program for principals. *Mid-Western Educational Researcher*, 31(1), 3–23.
- Jacob, R., Goddard, R., Kim, M., Miller, R., & Goddard, Y. (2015). Exploring the causal impact of the McREL Balanced Leadership Program on leadership, principal efficacy, instructional climate, educator turnover, and student achievement. *Educational Evaluation and Policy Analysis*, 37(3), 314–332.
- Jeynes, W. H. (2005). A meta-analysis of the relation of parental involvement to urban elementary school student academic achievement. *Urban Education*, 40(3), 237–269.
- Jeynes, W. H. (2007). The relationship between parental involvement and urban secondary school student academic achievement: A meta-analysis. *Urban Education*, 42(1), 82–110.
- Kim, J. (2019). How Principal Leadership Seems to Affect Early Career Teacher Turnover. *American Journal of Education*, 126(1), 101–137. <https://doi.org/10.1086/705533>

- Kraft, M. A., Marinell, W. H., & Shen-Wei Yee, D. (2016). School Organizational Contexts, Teacher Turnover, and Student Achievement: Evidence From Panel Data. *American Educational Research Journal*, 53(5), 1411–1449. <https://doi.org/10.3102/0002831216667478>
- Lauterbach, S., Crawford, L., Kirezi, J. C., Nsabimana, A., & Peeraer, J. (2025). Improving school leadership in Rwanda. *Journal of Development Economics*, 177, 103545. <https://doi.org/10.1016/j.jdeveco.2025.103545>
- Leithwood, K., Harris, A., & Hopkins, D. (2020). Seven strong claims about successful school leadership revisited. *School Leadership & Management*, 40(1), 5–22.
- Levin, S., Leung, M., Edgerton, A. K., & Scott, C. (2020). Elementary School Principals' Professional Learning: Current Status and Future Needs. *Learning Policy Institute*.
- Liu, Y., Bellibaş, M. Ş., & Gümüş, S. (2021). The Effect of Instructional Leadership and Distributed Leadership on Teacher Self-efficacy and Job Satisfaction: Mediating Roles of Supportive School Culture and Teacher Collaboration. *Educational Management Administration & Leadership*, 49(3), 430–453. <https://doi.org/10.1177/1741143220910438>
- Luo, W., Foo Seong Ng, D., Nguyen, D., Ng, P. T., & Salleh, H. (2022). Transformational leadership and its relations to teacher outcomes in Singapore: Mastery goals and self-efficacy as mediators. *Leadership and Policy in Schools*, 21(3), 618–634.
- Martinez-Yarza, N., Solabarrieta-Eizaguirre, J., & Santibáñez-Gruber, R. (2024). The impact of family involvement on students' social-emotional development: The mediational role of school engagement. *European Journal of Psychology of Education*, 39(4), 4297–4327. <https://doi.org/10.1007/s10212-024-00862-1>
- Nguyen, D., Ng, D., Luo, W., & Mansor, S. (2022). Exploring the relationships between instructional leadership and teacher competences: Singapore primary school teachers' perceptions. *International Journal of Leadership in Education*, 25(6), 919–940. <https://doi.org/10.1080/13603124.2020.1731765>
- Nguyen, D., See, B. H., Brown, C., & Kokotsaki, D. (2023). *Reviewing the evidence base on school leadership, culture, climate and structure for teacher retention* [Rapid evidence assessment]. The Education Endowment Foundation (EEF), Durham University and The University of Warwick.

<https://d2tic4wvo1iusb.cloudfront.net/production/documents/projects/Review-of-leadership-approaches.pdf?v=1712064512>

Nguyen, D., See, B. H., Brown, C., & Kokotsaki, D. (2024). Leadership for teacher retention: Exploring the evidence base on why and how to support teacher autonomy, development, and voice. *Oxford Review of Education*, 1–21.
<https://doi.org/10.1080/03054985.2024.2432635>

Prime Minister’s Order Establishing the Special Statute Governing Employees of Basic Education Institutions., Pub. L. No. 033/03, 77 (2024).
<https://www.minijust.gov.rw/index.php?eID=dumpFile&t=f&f=110411&token=f0191966be364434ca33eb1811320242b6940958>

Rwanda Basic Education Board. (2020). *Professional Standards for Effective School Leadership*.
https://www.reb.gov.rw/fileadmin/user_upload/REB/Publications/TEACHER_STANDARDS/PROFESSIONAL_STANDARDS_FOR_EFFECTIVE_SCHOOL_LEADERSHIP_IN_RWANDA.pdf

Smith, T. E., Sheridan, S. M., Kim, E. M., Park, S., & Beretvas, S. N. (2020). The effects of family-school partnership interventions on academic and social-emotional functioning: A meta-analysis exploring what works for whom. *Educational Psychology Review*, 32(2), 511–544.

Sutcher, L., Podolsky, A., & Espinoza, D. (2017). Supporting Principals’ Learning: Key Features of Effective Programs. *Learning Policy Institute*.

Tingle, E., Corrales, A., & Peters, M. L. (2017). Leadership development programs: Investing in school principals. *Educational Studies*, 1–16.
<https://doi.org/10.1080/03055698.2017.1382332>

U.S. Department of Education. (2020). *Balanced Leadership*. U.S. Department of Education Institute of Education Science What Works Clearinghouse.
<https://files.eric.ed.gov/fulltext/ED603650.pdf>

Wang, E. L., Schwartz, H. L., Mean, M., Stelitano, L., & Master, B. K. (2019). Putting Professional Learning to Work: What Principals Do with Their Executive Development Program Learning. Research Report. RR-3082-DOED. *RAND Corporation*.

10. Appendixes

10.1. Appendix 1: An example of structured guidance on delivering one activity in Module 1.

Time	Duration	Session title and content	Objective (Why) and key messages	Facilitation method (How)	Materials
09:00 – 10:00	1h	Overview of school leadership: Our dream school (Unit 1)	- To scaffold/remediate any misunderstanding on Overview School leadership (Unit 1) as from Moodle analytics - To visualise a dream school - To explain school leadership practices and their implication on teaching and learning process for improving students' achievement - To show empathy in executing leadership roles - To develop a culture of self-assessment and reflection Key messages To be added: what is it that the facilitator should point out, make sure trainees take home? - Common misunderstandings from Moodle - Use Module text as reference (Unit 1) - School leadership versus school management - Key characteristics of school leadership - Key roles of school leadership - School leadership models - Reflection: speak about own actions and space for improvement (not other people) - Apply Content as in Module 1 Unit 1	Step 1: Introduction (10') Brief wrap up of key clarifications, mistakes made from Moodle analytics on the topic of this session (see objective and session title). (Note: where possible integrate these clarifications in the relevant activity below so the clarification becomes more meaningful. See Step 6 which unpacks all content! You could announce to participants that in this session some confusions from online learning will be clarified). Step 2: The drawing part1 (30') Facilitator asks participants to draw the school of their dreams Instruction: - take a flip chart and pens, markers, pencils, ... - Possible guiding questions: how does your dream school look like? What happens at your dream school? How do people engage in this school? - you have 25' to do this Step 3: The drawing part2 (20') Facilitator asks participants to draw -on the same sheet- the school leader/themselves. Instruction: - Draw the school leader on your drawing of your dream school - Possible guiding questions: How does the school leader of the dream school look like? What does this person do? How does this person behave? How does the person interact? What and how does this person support the development of the school of their dreams? - you have 15' to do this	- Markers - Flip charts for each participant one (dream drawing) - pencils, crayons, paint, felt tip pens... - masking tape - little round stickers, 3 per person 5 flip charts for world café - Flash cards with the following terms: - Leadership and management - key character of school leadership - Key roles of school leadership - school leadership models Paste the flash cards on top of the flip charts. Optional print out: instruction card for each group (see under Step 7, printable version: see material 1 below)

10.2. Appendix 2: An example of assessment types in Module 1.



All other evidence

Portfolio task 1: Commitment letter

Submit a scanned copy of the signed commitment letter that you received during the in-person orientation session.

Portfolio task 2: Self-assessment

- Read through the [Introduction to Portfolio task 2: school leadership assessment](#).
- Complete the [School Leadership Assessment Tool](#), and identify your learning needs that you will address throughout the CPD programme

Portfolio task 3: Statement of vision, mission and core values

- Read through Unit 2: [Developing a vision, mission and values of the school](#).
- Submit the statement of your vision, mission and values of your school after applying feedback received from online and face to face sessions.

Portfolio task 4: Dissemination of your school vision, mission and core values

Submit evidence of dissemination of your school vision, mission and core values (e.g., picture of vision, mission and core values on the school wall, minutes of dissemination meetings, etc.)

Portfolio task 5: A report of stakeholder analysis

- Read Unit 3 Section 3: [Involving stakeholders in the SIP process](#).
- Submit the report of the stakeholder's analysis with information about:
 - (i) explanation on the procedures you followed while conducting the stakeholder's analysis process;
 - (ii) the classification of the stakeholders according to their importance and;
 - (iii) classification of the stakeholders in relation to their importance and influence

Portfolio task 6: School SWOT analysis report

- Read Unit 3 Section 2: [Key steps in the SIP development process](#) focusing on the situation analysis
- Submit the report on your school SWOT analysis showing details on the identified strengths, weaknesses, opportunities, threats and the related goals and key priorities

10.3. Appendix 3: Comparing gains in the S&L outcomes between IG and CG before and after the intervention.

Note. IG = Intervention Group. CG = Comparison Group.

An example of interpretation: The results on Indicator 1 indicate that IG schools have higher scores in meeting this indicator (school vision, missions and core values) than those in CG. More IG schools met this indicator at the post-test stage compared to those in the CG. The average gain was 1.45 for the IG while it was 0.16 for the CG. The effect size of +0.53 suggests an effect of headteachers' participation in the DESL programme on improving Indicator 1 in their schools. The way of interpretation of the other indicators in this appendix is similar to that of Indicator 1.

Group	Pre-intervention Mean of Total (SD)	Post-intervention Mean of Total (SD)	Gains in outcomes	Effect size
Indicator 1. School vision, missions and core values				
IG	3.87 (2.39)	5.32 (1.06)	1.45 (2.67)	
CG	4.81 (1.76)	4.97 (1.64)	0.16 (2.02)	
Total	4.34 (2.15)	5.15 (1.39)	0.84 (2.45)	+0.53
Indicator 2. Strategic planning				
IG	1.65 (1.85)	3.71 (1.44)	2.07 (2.5)	
CG	2.18 (1.84)	3.37 (1.81)	1.19 (2.59)	
Total	1.92 (1.86)	3.54 (1.64)	1.63 (2.58)	+0.34
Indicator 3. Leadership for learning				
IG	6.69 (1.68)	7.31 (1.27)	0.61 (2.06)	
CG	7.05 (1.19)	7.06 (1.53)	0.01 (1.76)	
Total	6.87 (1.46)	7.18 (1.41)	0.31 (1.93)	+0.31
Indicator 4. Care and welfare for students				
IG	3.71 (2.14)	5.02 (1.79)	1.31 (2.49)	
CG	4.72 (1.61)	4.78 (1.91)	0.06 (2.3)	
Total	4.22 (1.96)	4.89 (1.85)	0.68 (2.47)	+0.52
Indicator 5. Staff vision and support				
IG	6.08 (1.84)	7.63 (1.57)	1.56 (2.32)	
CG	6.76 (2.09)	6.68 (2.18)	-0.07 (2.87)	
Total	6.42 (2.0)	7.16 (1.96)	0.74 (2.73)	+0.63
Indicator 6. Other supporting structure				
IG	1.54 (1.21)	2.76 (1.27)	1.22 (1.57)	
CG	1.9 (1.37)	2.3 (1.37)	0.4 (1.58)	
Total	1.72 (1.3)	2.53 (1.34)	0.8 (1.63)	+0.52

Group	Pre-intervention Mean of Total (SD)	Post-intervention Mean of Total (SD)	Gains in outcomes	Effect size
Indicator 7. Financial management				
IG	1.97 (1.22)	2.71 (1.18)	1.11 (1.34)	
CG	2.16 (1.22)	2.25 (1.41)	0.28 (1.44)	
Total	2.07 (1.22)	2.48 (1.32)	0.69 (1.45)	+0.60
Indicator 8. Managing learning resources				
IG	1.98 (1.5)	2.71 (1.18)	0.73 (1.72)	
CG	2.05 (1.32)	2.25 (1.41)	0.2 (1.69)	
Total	2.02 (1.41)	2.48 (1.32)	0.47 (1.72)	+0.31
Indicator 9. Managing change				
IG	0.87 (0.34)	0.9 (0.3)	0.03 (0.45)	
CG	0.91 (0.29)	0.91 (0.28)	0.01 (0.38)	
Total	0.89 (0.32)	0.91 (0.29)	0.02 (0.42)	+0.05
Indicator 10. School governance				
IG	2.68 (1.4)	3.86 (1.01)	1.18 (1.63)	
CG	3.23 (1.3)	3.75 (1.25)	0.52 (1.64)	
Total	2.96 (1.38)	3.81 (1.14)	0.85 (1.66)	+0.40
Indicator 11. Partnership with parents and the community				
IG	4.36 (1.99)	5.48 (1.04)	1.12 (2.24)	
CG	4.96 (1.3)	4.94 (1.59)	-0.02 (1.89)	
Total	4.66 (1.7)	5.21 (1.37)	0.55 (2.15)	+0.55
Indicator 12. School environment				
IG	3.37 (2.2)	4.31 (1.75)	0.93 (2.23)	
CG	3.6 (1.63)	3.87 (1.9)	0.27 (2.1)	
Total	3.49 (1.93)	4.08 (1.84)	0.6 (2.19)	+0.31